Meridian 1 and Succession Communication Server for Enterprise 1000

Automatic Call Distribution

Feature description

Document Number: 553-2671-110
Document Release: Standard 8.00
Date: January 2002

Copyright © 1993–2002 Nortel Networks
All Rights Reserved

Printed in Canada

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

SL-1, Meridian 1, and Succession are trademarks of Nortel Networks.

Revision history

January 2002

Standard 8.00. This document is up-issued to include content changes for Meridian 1 Release 25.40 and Succession Communication Server for Enterprise 1000 Release 1.1.

April 2000

Standard 7.00. This is a global document and is up-issued for X11 Release 25.0x.

June 1999

Issue 6.00. This is the X11 Release 24.2x version of this document.

October 1997

Issue 5.00. This is the X11 Release 23.0x standard version of this document. Automatic Call Distribution features that were previously in *X11 features and services* 553-3001-306 have been added to this document.

August 1996

Standard, version 4.00 for X11 Release 22.0x.

December 1995

Standard, version 3.00. This document issued for Release 21.0x to include Multiple Queue Assignment.

December 1994

Standard, version 2.00. This is a new document issued for X11 Release 20.0x.

August 1993

Standard, version 1.00. This document includes updates for X11 Release 19.0x. It supersedes and replaces the following documents, whose content is incorporated in this document.

— *Automatic Call Distribution: Feature Description* (553-2671-110)

— *Automatic Call Distribution: Management Commands and Reports* (553-2671-112)

— *ACD basic features operation and tests* (553-2671-300)

— *ACD advanced features operation and tests* (553-2671-301)

Contents

Revision history 3
About this document 7
Description 11
Agent features 19
Supervisor features 37
System features 57
Testing basic features 237
Testing advanced features 251
List of terms 267
Index 281

About this document

This document applies to Meridian 1 Internet Enabled and Succession Communication Server for Enterprise (CSE) 1000 systems.

This document is a global document. Contact your system supplier or your Nortel Networks representative to verify that the hardware and software described is supported in your area.

This document describes the:

- Automatic Call Distribution features for both agents and supervisors.
- ACD hardware types and options.
- Testing of the basic and advanced ACD features.

Document overview

The following list identifies the different ACD packages available:

— Base ACD (BACD) package 40

— ACD basic features (ACD-A) package 45

— ACD advanced features (ACD-B) package 41

— ACD management reports (ACD-C1) package 42

— ACD load management commands (ACD-C2) package 43

— ACD auxiliary processor (ACD-D) package 50/51

Allowable package combinations are A, A+B, A+B+C1, and A+B+C1+C2. Package D replaces package C1 and provides all of the features of packages A, B, and C2.

This document describes the ACD basic and advanced features packages. The ACD basic features package includes the following:

— Agent features

- Call Source Identification
- Calls Waiting Indication
- Directory Number key
- Display Waiting Calls key
- In-Calls key
- Log In
- Make Set Busy key
- Night Mode
- Not Ready key
- Release key

— Supervisor features

- Agent lamps
- Not Ready key
- Display Agents key
- Display Waiting Calls key

— System features

- ACD-CDR Connection Record
- Alternate Call
- Alternate Call Answer
- In-Band ANI (IANI)
- Incoming Trunk restrictions
- Music On Hold
- Night Call Forward (NCFW)

- Night Treatment
- Priority Trunks
- Recorded Announcement

The ACD advanced features package includes the following:

— Agent features

- Agent and Supervisor communication
- Calls Waiting Indication
- Emergency key
- ACD Threshold Visual Indication

— Supervisor features

- Agent key
- Agent lamp
- Agent Observe
- Display Waiting Calls (DWC) key
- Interflow key
- Supervisor and Agent communication
- Supervisor Control of Night Service (NSVC)

— System features

- ACD Answering Time in Night Service
- ACD Call Waiting Thresholds
- ACD Least Call Queuing
- ACD Night Call Forward without Disconnect Supervision
- Automatic Overflow
- Call Forcing
- Call Interflow
- Customer Controlled Routing (CCR)

- Dialed Number Identification Service (DNIS), including the following:
  - DNIS Across Call Modifications
  - DNIS on CDR
  - Name Display for DNIS
  - Routing by DNIS number
- Enhanced ACD Routing
- Enhanced Overflow
- Hold in Queue for Interactive Voice Response
- Music on Delay
- Priority Agents
- Secondary DN Call Blocking (SDNB)
- Supervisor Control of Queue Size
- Time Overflow (TOF) queuing

Some of the above features are optional features and depend on certain packages for support and operation. Refer to the Features and software options chart in *X11 Features and Services* (553-3001-306).

Music On Hold is available as a separate option. ACD/CDR Connection is bundled with every basic package.

Other documentation

Some ACD systems use an Auxiliary Data System (ADS) that requires additional hardware. Customers with ACD-D software for Auxiliary Data Systems (ACD/ADS) should also refer to the ACD-D documents listed below:

— *Automatic Call Distribution: Management Commands and Reports* (553-2671-112)

— *Application Equipment Module installation guide* (553-3201-200)

— *Meridian MAX Installation* (553-4001-111)

Description

A system with the ACD feature is basically divided into two parts: the ACD system and the Meridian 1.

Incoming calls to the ACD portion of the system are compiled in a queue by the switch and answered by a group of assigned ACD telephones. Each ACD telephone, called an agent position, is dedicated to a particular ACD Directory Number (DN) (queue).

Each switch can serve up to 100 customers, each customer having many ACD queues. Each queue is defined by its ACD DN. The ACD DN is a unique number of up to seven digits taken from the customer's numbering plan.

Incoming calls are assigned queue positions based on priority and then first-in order. They are then distributed equally to all the active agent positions assigned to that particular queue. The system creates two queues for each ACD DN. They are as follows:

— Incoming calls

— Agent positions ready to receive calls

The system matches available agents with incoming calls. System and ACD limits are shown in Table 1.

Table 1
ACD DN based on machine type

Machine Type									
ST	STE	NT	RT	XT	21	21E	51/61	71	81
Maximum number ACD DNs and Control Directory Numbers (CDNs) per customer									
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Maximum number of agents per system ***Note:*** With X11 Release 19 and later, the maximum number of agents per system has increased to 10,000. The number of agents on a system must be within the parameters set by the IDLB and IDUB prompts in LD 23.									
120	120	1200	1200	1200	120	120	1200	1200	1200
Maximum number of agents per ACD DN									
120	1200	1200	1200	1200	120	1200	1200	1200	1200

ACD agent telephone types

An ACD agent position is a telephone with an ACD DN assigned to it. Some agent positions can be designated as supervisors; the agent position status can be switched between agent and supervisor. The ACD system supports both digital and analog (500/2500 type) telephones.

analog (500/2500 type) telephones

Analog (500/2500 type) telephones can be used as ACD agent positions. This feature allows the telephone to operate both as an ACD agent position and as a standard telephone with an Individual Directory Number (IDN). The analog (500/2500 type) telephone has most of the functions of the digital telephone except for the following:

— It cannot be assigned a supervisor status.

— It cannot be a virtual agent position.

— It can have only one DN appearance, acting as both an IDN and the ACD agent position.

Analog (500/2500 type) telephones are not equipped with keys and cannot support features requiring keys or key lamps. For example, these telephones are not supported by the Message Center feature. They can be defined as Message Center ACD agents, but will not support the Message Cancellation (MCK) and Message Indication (MIK) keys. Therefore, it is strongly recommended that analog (500/2500 type) agents not be configured in an ACD Message Center. Refer to *Features and Services* (553-3001-306) for more information on analog (500/2500 type) telephones and using SPRE codes.

QSU1

The QSU1 telephone is the basic telephone, equipped with the following standard features:

— Handset

— Push Button Dial pad

— Volume Up and Volume Down keys

— Built-in loudspeaker

— Ten programmable feature keys, eight with an associated lamp for visual indications

— Hold key

The number of programmable feature keys can be increased by adding one or more QMT1 or QMT2 add-on modules. The QMT1 has 10 buttons; the QMT2 has 20 buttons.

QSU3

The QSU3 telephone has all the features of the QSU1 plus a 16-digit display. It shows call source and other information related to both call-processing and other optional features. The QSU3 telephone should be used when the agent needs to know the source of a call or that a call has been overflowed from another queue. This telephone is also required if the agent position is to be equipped with Time and Date Display or other display features.

QSU7

This telephone type has both the digit display and two jacks (one for headset and one for handset operation), but does not have a built-in handset.

M2216ACD

The M2216ACD telephone is available in two versions. Both versions have the following features:

— Fully digital

— Two jacks for headset or handset operations

— 15 programmable keys; 16 programmable keys if display is not enabled

— Independent volume controls

— Message Waiting indicators

— Display options

— Integrated voice-data calling available with a Meridian Programmable Data Adaptor (MPDA)

— on-hook dialing capabilities

— NT2K22 22-Key Expansion Module for expanded functions (optional)

— Configured as maintenance telephones; does not support attendant services and attendant key features

M2216ACD-1

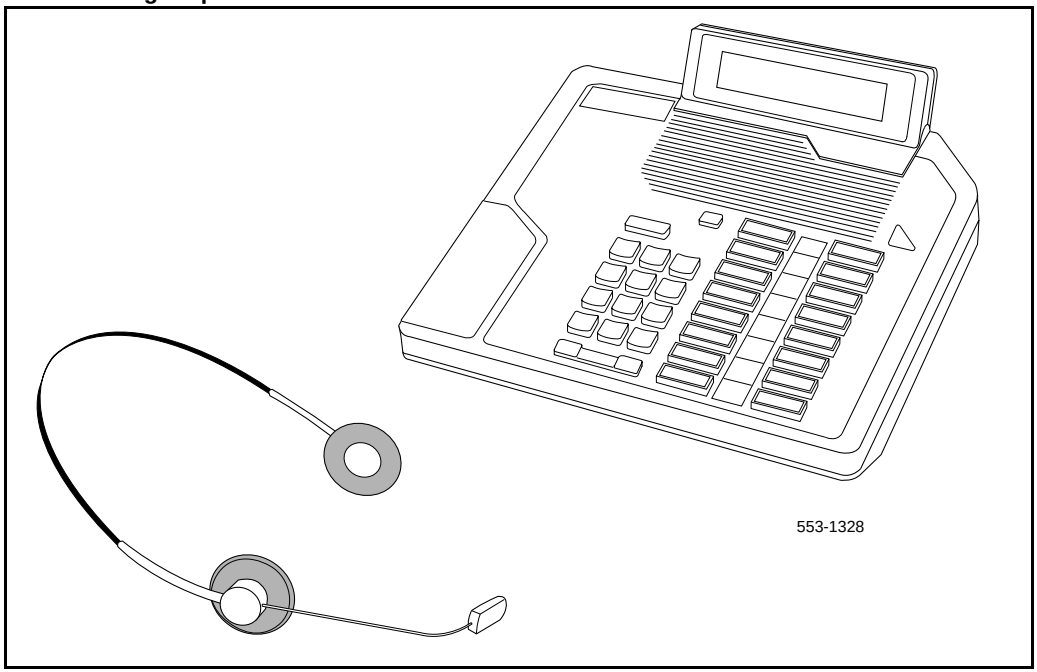
This basic telephone has two RJ-32 jacks for headset operations.

M2216ACD-2

This telephone has one RJ-32 jack for listen-only headset operation and one PJ-327 jack for a Carbon headset.

Figure 1 illustrates the M2216ACD telephone with the headset.

Figure 1
M2216ACD agent position



ACD display enhancement

Enhanced displays give more information to ACD agents equipped with the M2216 digital telephones.

This information shows the current status and informs the agent of any required actions. Supervisor telephones provide information for implementing the following services:

ACNT	Activity Code
AAG	Answer Agent
AMG	Answer Emergency
RAG	Call Agent
DAG	Display Agent
DWC	Display Waiting Calls
Log In	Log In by Agent

MSB	Make Set Busy
OBV	Observe Agent
NSVC	Night Service
TOFQ	Time Overflow Queuing

Refer to *Meridian 1 Telephones: Description and Specifications* (553-3001-108) and the *M2216ACD Telephone User Guide* for a more detailed explanation of telephone operations and examples of the display output.

M3905 Call Center enhanced display Telephone

The M3905 Call Center Telephone is an advanced ACD telephone with a large enhanced display area. The M3905 enhanced display has a two area display screen. The upper portion of the display screen has a one line by 12 character display. The bottom portion of the display has a two lines by 24 character display area, located just above the four soft programmable feature keys.

Enhanced displays gives more information to ACD agents equipped with the M3905 Call Center Meridian Digital Telephone.

This information shows the current status and informs the agent of any required actions. Supervisor telephones provide information for implementing the following services:

ACNT	Activity Code
AAG	Answer Agent
AMG	Answer Emergency
RAG	Call Agent
DAG	Display Agent
DWC	Display Waiting Calls
Log In	Log In by Agent
MSB	Make Set Busy
OBV	Observe Agent
NSVC	Night Service
TOFQ	Time Overflow Queuing

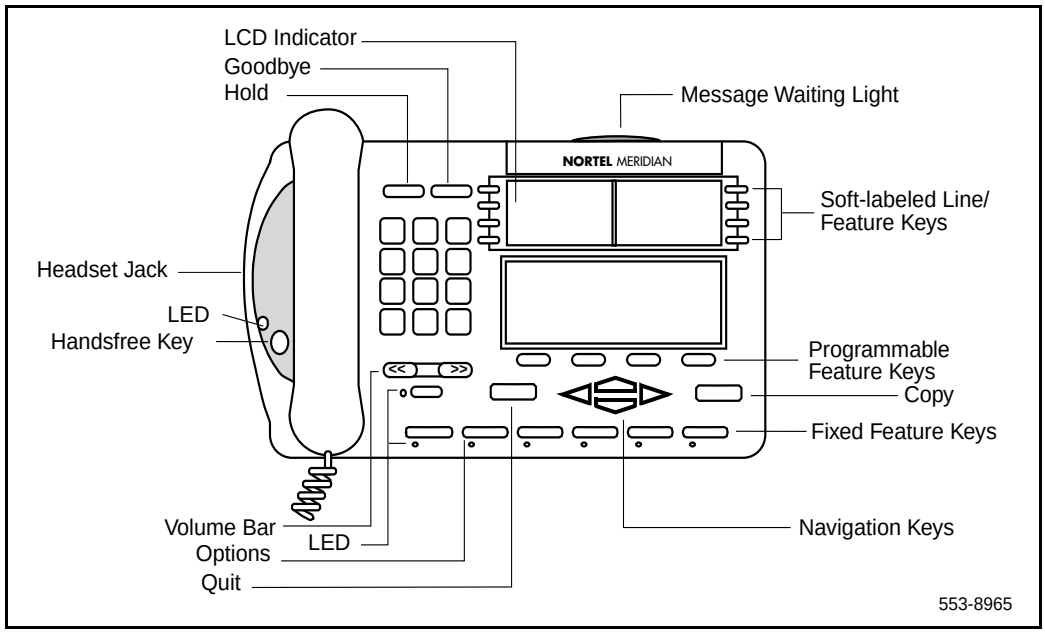
Refer to *Meridian 1 Telephones: Description and Specifications* (553-3001-108), *M3900 Series Meridian 1 Digital Telephones: Description, Installation, and Administration* (553-3001-216), and the M3905 ACD User Guide for a more detailed explanation of telephone operations and examples of the display output.

M3905 Call Center Telephone

The features of the M3905 Call Center telephone are:

- eight Programmable Line/Feature Keys (Self-labeled), giving the user access to eight line/feature keys
- four Programmable Feature Keys (Self-Labeled) which have three layers each, giving the user access to 12 feature keys
- six Fixed Feature Keys
- Personal Directory
- Call Log
- five line by 24 character display
- handset optional
- Supervisor Observe Key with LED
- Supervisor Headset Observe port

Figure 2
M3905



Note: You can configure four of the bottom six Fixed Feature Keys to feature Keys that suit the business needs of the Call Center user.

Agent features

This section lists both basic and advanced agent features in alphabetical order. Each feature name is followed by *Basic* if the feature is part of ACD basic features (ACD-A, package 45) or *Advanced* if it is part of ACD advanced features (ACD-B, package 41). For a complete list of the features in each package, refer to “Document overview” on page 7.

ACD Calls on Hold

The Automatic Call Distribution (ACD) Calls on Hold enhancement introduces a modification to the conditions under which an ACD agent may go into Make Set Busy state by operating the Make Set Busy (MSB) key. Prior to the introduction of the ACD Calls on Hold enhancement the ACD agent could go into Make Set Busy state, by depressing the MSB key, while the agent still had a call on hold. With the introduction of the ACD Calls on Hold enhancement the system administrator now has the option of disallowing an ACD agent with a call on hold from going into Make Set Busy state.

Whether an ACD agent is allowed, or not, to go into Make Set Busy state while a call is still held by that agent is determined by the response to the new HMSB prompt in LD 23.

When the response to the HMSB prompt is NO, agents which have calls on hold cannot go into Make Set Busy state.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131; and Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

LD 23 – This overlay is modified to accept responses to and print the new HMSB prompt if the SUPP package (131) is equipped. Modify or create data for each ACD queue:

Prompt	Response	Description
REQ:	NEW CHG PRT	Add data. Change data. Print data.
TYPE:	ACD	Automatic Call Distribution data block.
CUST	xx	Customer number.
ACDN	xxxx	Automatic Call Distribution Directory Number.
...		
CWTT	...	
HMSB	(YES), NO	Hold Make Set Busy (allowed) denied. Respond with YES to allow, or NO to disallow, agents to go into Make Set Busy state while they have calls on hold.
...		

Printing the ACD data block will include the HMSB prompt and its response.

Feature operation

If an agent presses the Make Set Busy key when Automatic Call Distribution Calls on Hold is enabled, the action will be ignored.

ACD Threshold Visual Indication (Advanced)

This Automatic Call Distribution (ACD) Threshold Visual Indication enhancement provides a visual indication, to all agents, to notify them of any calls which have been queued for more than a specified amount of time. Prior to the introduction of the ACD Threshold Visual Indication enhancement, the only visual indication given to agents was when the number of calls in the queue exceeded the thresholds defined. With the introduction of the ACD Threshold Visual Indication enhancement, ACD agents may be given a visual indication when there are any calls which have been queued for more than a defined period of time.

The agents are given the visual indication via the new ACD Call Waiting Time Indication (ATW) key.

Operating parameters

LD 25 (Move Data Block)

This overlay is modified to include the ATW key information when the data block is moved from one loop to another loop.

LD 80 (Trace Call Diagnostic)

This overlay is modified to include the ATW key information when the Trace Call Diagnostic is used.

LD 81 (Feature and Stations Print)

This overlay is modified to include the ATW key information when the Feature and Stations Print routine is used.

LD 83 (Terminal Number Sort Print)

This overlay is modified to include the ATW key information when printing the TN Block information.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131; Basic Automatic Call Distribution (BACD) package 40; and Automatic Call Distribution Package B (ACDB) package 41.

Feature implementation

LD 11 – This overlay is modified to accept the new key type ATW in response to the KEY prompt when the SUPP (131), BACD (40), and ACDB (41) packages are equipped. Modify or create data block for each agent.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	xxxx	Type of data block.
...		
LANG	...	
KEY	0-69 ATW	Key number; ACD Call Waiting Time Indication key.

LD 20 – This overlay is modified to print the new ATW key type when the SUPP (131), BACD (40), and ACDB (41) packages are equipped.

Prompt	Response	Description
REQ:	PRT	Print data block.
TYPE:	xxxx	Type of data block.

LD 23 – This overlay is modified to accept responses to and print the new CWTT prompt when the SUPP (131) package is equipped. Modify, create, or print data for each ACD queue

Prompt	Response	Description
REQ:	NEW CHG PRT	Add new data. Change existing data. Print data.
TYPE:	ACD	Automatic Call Distribution data block.
CUST	xx	Customer number.
ACDN	xxxx	Automatic Call Distribution Directory Number.
...		
FNCF	...	
CWTT	0-(40)-63	ACD Call Waiting Threshold Timer. Enter the time, in one second increments, that a call must be in queue to activate the ATW indicator on agent sets.

Printing the ACD data block will include the CWTT prompt and its response.

Feature operation

Press the **AWT** key to be given a visual indication when there are any calls which have been queued for more than a defined period of time.

Agent and supervisor communication (Advanced)

When an ACD agent is not active on an ACD call, the agent can press the Supervisor key to call the assigned supervisor. The associated lamp on the agent telephone lights steadily and the ringback tone is heard. When the supervisor answers, the Supervisor lamp on the agent's telephone remains lit and the agent and supervisor can talk.

When an agent calls the supervisor, tone ringing sounds from the supervisor's terminal speaker and the Answer Agent lamp flashes. The supervisor answers the call by pressing the Answer Agent key, and the display shows the calling agent's ACD Position Identification (POS ID). The supervisor's Not Ready lamp lights steadily. If the Not Ready lamp is already on, it remains on.

Three-party operation

If the ACD agent is active on an ACD call and presses the Supervisor key, the calling party is put on hold (fast flashing In-Calls lamp). The lamp associated with the Supervisor key lights steadily, and the ringback tone is heard. When the supervisor answers, the agent and the supervisor can talk privately.

When the agent presses the Supervisor key a second time, the calling party (on hold with the In-Calls key) is added to the conversation. The Supervisor lamp on the agent's telephone goes dark, and the conference (agent/caller/supervisor) is established on the agent's In-Calls key. By pressing the RLS key, the agent can leave the conference call, and the caller and supervisor remain connected. Alternatively, the supervisor can press the RLS key and leave the call. The agent and caller are still connected.

Call Source Identification (Basic)

Call Source Identification is an optional feature using the Digit Display on the agent's telephone. With the incoming call displayed on the screen, the agent is able to respond appropriately to the caller. For calls coming from incoming trunks, the trunk access code and the member number of the trunk are shown. For internal calls, it shows the DN of the calling telephone.

The ACD agent position can be equipped with other additional features. These features are described in *Features and Services* (553-3001-306). Non-ACD features can also be assigned to the DN key of an ACD telephone.

Calls Waiting Indication key (AWC) (Basic)

ACD telephones may be equipped with Light Emitting Diodes (LEDs) or Liquid Crystal Display (LCD) indicators to show the agent status in ACD queues. The indicator states are determined by the threshold values set in administration programs. Refer to *Automatic Call Distribution: Management Commands and Reports* (553-2671-112) for a complete description.

Depending on the threshold values defined for each ACD DN, Call Waiting indicators can display the following states:

— **Dark or blank** The queue load is light or empty.

— **Steadily lit** At least one call is waiting, but the load is within normal limits.

500/2500 telephone

If call waiting and warning tones are allowed in the telephone class of service, call waiting for external calls operates. If the agent is busy on an IDN call and another IDN call comes in, the call waiting treatment is allowed. If the agent is busy on an ACD call, the incoming IDN call receives a busy tone.

Calls Waiting Indication key (AWC) (Advanced)

Telephones for an ACD system are equipped with Light Emitting Diodes (LEDs) or Liquid Crystal Display (LCD) indicators to show the call status in ACD queues. The indicator states are determined by the threshold values set in administration programs. Refer to the *Administration* (553-3001-311)for a complete description.

The call waiting indicator relies on thresholds associated with Automatic Overflow. The Call Waiting Threshold (CWTH), Busy Threshold (BYTH), and Overflow Threshold (OVTH) govern Automatic Overflow and provide steady, flashing, and fast flashing lamps.

In X11 Release 15, two prompts allow the lamp states to operate independently of the Automatic Overflow parameters. Call Waiting Lamp Flash (CWLF) and Call Waiting Lamp Fast Flash (CWLW) can be configured to flash and fast flash the lamps even though the Automatic Overflow parameters have not been met or exceeded.

Depending on the threshold values set for each ACD DN, the LEDs and LCDs display the following states:

— **Dark or blank** The queue is empty, or the number of calls in the queue is less than the Calls Waiting Threshold (CWTH).

— **Steadily lit** The CWTH has been met or exceeded. The number of calls in the queue is less than the Call Waiting Lamp Flash (CWLF) threshold.

— **Flash** The CWLF threshold has been met or exceeded. The number of calls in the queue is less than the CWLW.

- **Slow flash** (60 ipm) Busy. The number of calls waiting in this queue exceeds the busy threshold set for this ACD DN.
- **Fast flash** (120 ipm) Overloaded. New calls to this ACD DN will attempt to overflow to another programmed destination.

Directory Number key (Basic)

When an agent presses a DN key to make or receive a call, any other call in progress is automatically released (unless on hold).

When the call on the DN key is released, the agent position is automatically returned to whatever state it was in before the DN key was pressed. Any call being presented to the In-Calls key, but not yet answered by the agent when the DN key is pressed, is moved back to the head of its priority grouping in the incoming call queue for the ACD DN.

The DN lamp flashes slowly when an incoming call to the DN is connected to the telephone. It is lit steadily while the call is in progress and flashes quickly if the call is placed on hold. Activating the Make Set Busy (MSB) key prevents DN calls from being connected to the agent position. With X11 Release 17 and earlier, the agent cannot depress the Hold key when on a DN call and receive an ACD call. X11 Release 18 and later allows this with Alternate Call Answer. Refer to “Alternate Call Answer (Basic)” on page 81 for more information.

Display Waiting Calls (DWC) key

A Display Waiting Calls key can be assigned to ACD agent sets. This feature, which has been available on ACD supervisor sets, is available for agent sets in X11 Release 19 and later. An ACD DN can be programmed on a DWC key on any number of agent telephones.

The lamp associated with the Display Waiting Calls key provides summary information on the Calls Waiting status for the ACD DN. A lamp that is steadily lit means there is more than one call waiting in the queue.

When the DWC key is pressed, the Calls Waiting status for the ACD DN is displayed as follows:

aaa—bbb—ccc—dddd

Legend:

aaa = the number of calls currently waiting in the queue

bbb = the number of agent positions occupied for the ACD DN

ccc = the waiting time in seconds of the oldest call in the queue

dddd = always zero (0) with Basic ACD

This information is updated every time the key is pressed and remains visible until an event occurs to modify the display. Typical events include an incoming call or the pressing of the DN or Release key.

Operating parameters

The agent telephone can have either the AWC or the DWC key defined, but not both.

The DWC key ACD DN designation has to match the agent's In-Call designation.

Beginning with X11 Release 19, a Display Waiting Calls key for a particular ACD DN can be assigned to every ACD agent in the queue.

Display Waiting Calls (DWC) key (Advanced)

A Display Waiting Calls key can be assigned to an agent position for each ACD DN. The Display Waiting Calls reflects all calls that are in queue but have not been presented.

The Calls Waiting indicator relies on thresholds associated with Automatic Overflow. The Busy Threshold (BYTH) and Overflow Threshold (OVTH) govern Automatic Overflow and provide steady, flashing, and fast flashing lamps.

Beginning with X11 Release 15, two prompts allow the lamp states to operate independently of the Automatic Overflow parameters. Call Waiting Lamp Flash (CWLF) and Call Waiting Lamp Fast Flash (CWLW) can be configured to flash and fast flash the lamps even though the Automatic Overflow parameters have not been met or exceeded.

Depending on the threshold values set for each ACD DN, the following states are displayed. The information on the Display Waiting Calls key is updated every time the key is pressed.

— **Dark or blank** The queue is empty, or the number of calls in the queue is less than the Calls Waiting Threshold (CWTH).

— **Steadily lit** The CWTH has been met. The number of calls in the queue is less than the Busy Threshold (BYTH) or the Call Waiting Lamp Flash (CWLF) threshold, or both.

— **Flash** The BYTH or the CWLF threshold, or both, has been met. The number of calls in the queue is less than the Overflow Threshold (OVTH) or the Call Waiting Lamp Fast Flash (CWLW), or both.

— **Fast flash** The OVTH or the CWLW, or both, has been met or exceeded.

When the key is pressed, the Calls Waiting status for the ACD DN is displayed as follows:

a a a—b b b—c c c—d d d d

Legend:

a a a	=	calls waiting in queue
b b b	=	agent positions occupied
c c c	=	waiting time for the oldest call in the queue
d d dd	=	sum of all calls in other source TOF queues, call request queues from other network locations targeting this ACD DN, and CCR calls

Emergency key (Advanced)

In the event of threatening or abusive calls, an agent can note the trunk access code and trunk member number shown on the display. The agent presses the Emergency (EMR) key, establishing a no-hold conference with the supervisor (if one is assigned). The agent must remain in the conference for the duration of the call. At the supervisor's telephone, the Answer Emergency lamp flashes and a continuous buzzing sound is emitted. The ACD POS ID of the calling agent is displayed on the display of the supervisor's telephone. If equipped by the customer, a tape recorder can be used to record the call, or an emergency message can be typed on the maintenance TTY, or both.

When the agent presses the Emergency key, the associated lamp indicates the action being taken as follows:

— **Dark** Neither the supervisor nor the recording trunk is available. The supervisor may be busy on another emergency call, may be unassigned, or the telephone is not equipped with an Answer Emergency key. In addition, the recording trunks may all be busy or unassigned.

— **Flashing** The supervisor is available, but has not yet answered the emergency call.

— **Steadily lit** The supervisor or recording trunk, or both, is conferenced into the call.

When answering an emergency call, the supervisor listens through the built-in loudspeaker by leaving the handset on-hook or the headset unplugged. The supervisor can also put the emergency call on hold, without affecting the agent or caller, to make another call or perform another action. The supervisor returns to the emergency call by pressing the Answer Emergency key again. The Answer Emergency lamp fast flashes (120 ipm) while the call is on hold.

The recording device connects to a paging trunk with a Recorder (RCD) defined in software. When the agent presses the Emergency key, the recorder is conferenced into the conversation.

Paging trunk connections

The input impedance of a typical tape recorder is 47 K¾, but the output impedance of the paging trunk is switch selectable for 600 or 900 ¾. Therefore, it may be necessary to add a 600 or 900 ¾ resistor parallel with the tape recorder input to properly terminate the paging trunk.

Emergency Teletype messages

When the agent presses the Emergency key, the following messages can be generated on the maintenance teletype:

EMR 100 RC L S C U RR MMM

EMR 100 AG XXXX YYYY

EMR 100 OR L S C U RR MMM

Legend:

RC	= Recording trunk for emergency recorder
L	= Loop for recording trunk
S	= Shelf for recording trunk
C	= Card for recording trunk
U	= Unit for recording trunk
RR	= Route number for recording trunk
MMM	= Member number for recording trunk
AG	= Agent has pressed the Emergency key
XXXX	= the ACD DN assigned to that agent
YYYY	= the Agent Position ID (POS-ID)
OR	= the originator

Before X11 Release 14, the ACD DN and the POS ID digits are given in reverse order. The character “A” signifies a “0” and the digit “0” signifies the end of the number. For example, the ACD DN “01A4” would denote “401” and POS ID “5412” would denote “2145.”

X11 Release 14 and later displays the ACD DN and Position ID as they actually are. For example, ACD DN 301 appears on the printout as 301.

The letters L S C and U denote loop, shelf, card, and unit identifiers of the call origin. If the call is coming into the system, the RR and MMM parameters show the route and member numbers of the trunk. If the originating call is from within the system, these two fields are absent.

In-Calls key (Basic)

Meridian 1 telephones can have the In-Calls key programmed to be associated with an ACD DN, except the 500/2500 telephones, as they do not have key lamp functions. The Position ID functions apply to all ACD telephones.

Calls within ACD are presented on the In-Calls key at the agent position. The position identifier (POS ID) is a number identified with the In-Calls key. The POS ID is a unique number from the customer's numbering plan. This number identifies the agent position for Automatic Number Identification (ANI), Automatic Identification of Outward Dialing (AIOD), and Call Detail Recording (CDR) purposes. This number *cannot* be the same as the ACD DN and *cannot* be used to call the ACD agent position. The In-Calls key is always located on key 0 (bottom key) on the agent position.

When an incoming ACD call is presented to an agent position, the following events occur:

— Tone ringing is heard if the telephone is equipped with a built-in handset and the telephone is not in use.

— A three second tone sounds from the telephone loudspeaker if the telephone is equipped with a headset or plug-in handset.

— The In-Calls lamp flashes slowly (60 ipm).

An incoming ACD call can be terminated in the following ways:

— If the caller disconnects first, the call is released and the next call is presented.

— The agent disconnects first by pressing the In-Calls key. This releases the current call and the next call is presented.

— The agent presses the DN key.

— The agent presses the Not Ready key.

— The agent presses the Release key.

Calls can be automatically connected to an agent in the answered state by the advanced Call Force feature. When an agent is available, a call can be presented.

> ***Note:*** Calls extended by the attendant to the ACD DN are not automatically returned to the attendant if they remain unanswered past the attendant recall threshold.

Log In (Basic)

Agents must log in before performing any agent functions. Each ACD telephone has a Position ID. To log in with the MSB key, the agent presses the key, and the MSB lamp goes out. The agent position is now in the operative mode.

An ACD agent at an ACD telephone can log in and out by toggling the MSB key between the operative mode and the MSB mode.

Optionally with the ACD-C1 or ACD-D package, each agent who uses an ACD agent position can be assigned an Agent ID or a Position ID. To log in with the Agent ID, go off-hook and dial the Agent ID. Press the In-Calls key to begin receiving ACD calls. To log in using the Position ID, go off-hook and press the In-Calls key. Press the In-Calls key again (or the Not Ready key) to begin receiving ACD calls.

Data agents

Data agents can log in using the MSB key if the Data Shift key on the Add-on Data Module (ADM) is lit. Refer to the ACD-C document, *Automatic Call Distribution: Management Commands and Reports* (553-2671-112), for a description of Data agent log in methods.

500/2500 telephone

The agent logs in with a SPRE code plus 97 and is notified of the telephone state with a specific tone.

> ***Note:*** The Call Forward and Message Waiting dial tones take precedence over the ACD Logged In dial tone.

When the telephone is idle and the agent is not logged in, a standard dial tone sounds when the handset is lifted. To log in, the agent lifts the handset and enters the SPRE code plus 97. Replacing the handset places the agent position in the idle agent queue.

The agent can also log in with the Agent ID number by entering the SPRE code plus 97 and the 4-digit Agent ID number. When the agent goes off-hook again, the Log In tone sounds.

> ***Note:*** A busy tone indicates that an Agent ID log in number is not unique. If the ID number is invalid, an overflow tone sounds.

Log Out (Basic)

To log out, the agent enters the SPRE code plus 97 and goes on-hook. The agent is now logged out, and a standard dial tone sounds when the telephone is off-hook.

Beginning with X11 Release 19, M2216, M2008, and M2616 telephones, equipped with display units and ACD package D display the “LOGGED OUT” message when the Make Set Busy (MSB) key is deactivated by doing the following:

— disconnecting the headset or handset, if HOML (Handset On-Hook Means Log out) is enabled in LD 23

— placing the handset on-hook

When HOML is not enabled in LD 23, the Make Busy key must be used to log out. If no Make Busy key is available, the agent must use the headset or handset to log out. The moment an agent logs out, the following occurs:

— The agent position is removed from the ACD idle agent queue.

— All reporting against that position stops.

For ACD package C or D, if customer Load Management commands (SAPA/SAGP/SATS) are issued, the effects of these commands do not take place until the agent logs out.

With X11 Release 19 and later and ACD packages C or D, if the MSB key is deactivated and the telephone includes a display unit, the display is updated with the “LOGGED OUT” screen.

The Log Out command clears the Not Ready mode. If not logged in, the agent cannot activate the Not Ready mode.

> ***Note:*** The MSB key can be used to log out even if the agent logged in with P=Agent or Position ID. Pressing the MSB key while on a call logs the agent out when the call is completed.

Make Set Busy key (Basic)

Meridian 1 ACD digital telephones can have the Make Set Busy key programmed, except for the 500/2500 telephone, which does not have this key or lamp function.

The Make Set Busy (MSB) key causes an agent position to appear busy to the system, preventing the agent from receiving any calls. Activating the Make Set Busy (MSB) key removes the agent from the queue and logs out the agent from the system. The MSB lamp is steadily lit, and the DWC key display is cleared.

Calls presented to but not answered by this agent return to the top of the same queue from which they came. Pressing the MSB key does not disconnect an active call, but prevents further calls from being presented to that agent position. Neither IDN nor ACD calls can be received while the MSB key is activated. The agent can, however, originate calls from the DN key.

When the MSB key is deactivated, the agent receives incoming IDN calls. The agent must log in to receive ACD calls.

If all the agent positions assigned to an ACD DN are in the MSB mode, that ACD DN is automatically placed into Night mode. ACD Night mode is independent from the Night Service activated at the attendant console and can be different for each ACD DN. See *Features and Services* (553-3001-306) for more information.

Night Mode (Basic)

When an ACD DN is in the Night Mode, the agent queue does not send new calls to that ACD DN or number. Depending on the customer option, callers can be connected to a Recorded Announcement or forwarded to another ACD DN. See *Features and Services* (553-3001-306) for more information.

500/2500 telephone

The telephone is automatically placed in Night Mode by the agent entering the SPRE code plus 97. By doing this, the agent performs a log off from the system.

Not Ready key (Basic)

An agent, after completing an ACD call, may need time to perform tasks before accepting another call. This is post call-processing. When the agent presses the Not Ready (NRD) key, the agent is removed from the agent queue and the NRD lamp is lit steadily.

Beginning with X11 Release 19, M2216ACD, M2008, and M2616 telephones with display units indicate “NOT READY.”

While the agent position is in the Not Ready state, the agent can receive or originate calls using the DN key, but ACD calls cannot be connected to the In-Calls key. When the agent’s post call tasks are finished, the agent presses the NRD key. The Not Ready lamp goes out, and the agent is placed in the agent queue. It is also possible for the agent to press the In-Calls key to cancel Not Ready and reenter the queue. When the NRD key is pressed, any call presented to the In-Calls key (but not yet answered by the agent) is moved back to the head of its priority grouping in the incoming call queue for the ACD DN.

500/2500 telephone

Since 500/2500 telephones do not have key lamps, the telephone is placed in the Not Ready state by typing SPRE + 98. A specific tone informs the agent that the telephone is in this state.

> ***Note:*** The Call Forward and Message Waiting, the Call Forward, and the Message Waiting dial tones take precedence over the ACD Not Ready dial tone.

When the telephone is idle and logged in, the agent lifts the handset and enters the SPRE code plus 98 to activate the Not Ready feature. Replacing the handset takes the agent out of the queue and completes the Not Ready feature activation.

When the agent lifts the handset again, the Not Ready tone sounds. Calls are still received on the telephone's DN. To return to the queue, the agent lifts the handset and reenters the SPRE code plus 98. Replacing the handset places the agent back in the idle agent queue, completing the Not Ready process.

When the agent lifts the handset again, the Log In tone sounds and the telephone is in the Ready mode. The agent must be logged in to activate the Not Ready mode. If the agent logs out, the Not Ready state is cleared.

Release key (Basic)

The optional Release (RLS) key can be assigned in place of, or as well as, the Not Ready key if there is not a requirement for post-call work. When an agent disconnects from a call by using the RLS key, the agent position is immediately placed in the agent queue.

500/2500 telephone

The 500/2500 telephone does not have a Release key. To release a call, the agent hangs up. If the other party disconnects first, the agent must still hang up to release the call connection.

Supervisor features

This section lists both basic and advanced supervisor features in alphabetical order. Each feature name is followed by *Basic* if the feature is part of ACD basic features (ACD-A, package 45) or *Advanced* if it is part of ACD advanced features (ACD-B, package 41). For a complete list of the features in each package, refer to “Document overview” on page 7.

The keys on the supervisor’s telephone are set up to provide visual indications of agent and queue status.

Agent key (Advanced)

The Agent keys are used in conjunction with the Observe Agent and Call Agent keys to select the specific agent to be observed or called. The selection of the individual agent can be made anytime the Observe Agent lamp or Call Agent lamp is lit. Otherwise, any operation of the Agent key is ignored.

Agent lamps (Basic)

Up to 40 SL-1 telephone key/lamp pairs can be assigned to agent functions. The M2216 set with 2 add-on modules supports up to 58 keys. The key associated with each lamp is not used unless equipped with ACD advanced features. The lamps show the state of individual agents in the supervisor’s group. These are updated whenever the status of the agent changes, independent of the supervisor’s mode of operation (Agent/Supervisor/Make Set Busy). An agent can be assigned to only one supervisor at a time.

The lamps can be in the following states:

— **Dark** The agent position is not occupied.

— **Steadily lit** The agent is busy on an ACD call or is in the Not Ready mode.

— **Slow flash** (60 ipm) The agent is waiting for an ACD call.

— **Fast flash** (120 ipm) The agent is busy on a non-ACD call.

Agent lamp (Advanced)

With the ACD basic features, a steadily lit lamp associated with an Agent key means the agent either is handling an ACD call or is in the post-call processing mode (Not Ready lamp lit). The ACD advanced features provide an option for a Separate Post-Call Processing (SPCP) indication on the Agent lamp. The SPCP option is enabled/disabled through the ACD LD 23. When the SPCP option is enabled, the Agent lamp can assume any one of the following states:

— **Dark** The agent position is not occupied.

— **Steadily lit** The agent is handling an ACD call.

— **Flash** The agent is waiting for an ACD call (60 ipm).

— **Fast flash** The agent is busy with post-call work (Not Ready lamp lit) or is engaged in a non-ACD call (120 ipm).

Agent Observe (Advanced)

To observe the quality of service being offered to callers, the supervisor can monitor calls terminating on any key of any ACD agent. During Agent Observe, the supervisor is able to hear both the calling party and the agent, but cannot participate in the conversation. The supervisor can enter the conversation by pressing the Call Agent (RAG) key while in the Observe mode. This creates a conference situation, where the supervisor can participate in the conversation with the agent and the calling party.

If the supervisor presses another Agent key, the supervisor's speech path is disconnected and the Observe mode is restored. If the supervisor presses any key other than the RAG key, the Observe function ends.

A supervisor can observe any agent in the ACD operation by pressing the Observe Agent (OBV) key then dialing the Position ID or the AGT key assigned to a particular agent.

A supervisor with Allow Observation of Supervisor Class of Service can observe another supervisor in the ACD operation by pressing the Observe Agent (OBV) key and dialing the Position ID of the supervisor observed.

Agent Observe monitors an ACD agent position until the feature is deactivated. The supervisor does not have to reactivate the feature for each incoming call. If the feature is left on, each call presented to that agent is observed by the supervisor.

If a call is presented to a supervisor but not answered, and the supervisor presses the OBV key, the call is presented to another agent if available. Otherwise, the call is placed at the head of the ACD queue. If an EAR call is presented to an agent and the supervisor presses the Observe key, the call is presented to the agent without being affected by the observe function.

Agent Observe in Handsfree Mode

If a supervisor is in handsfree mode and receives a call while actively observing an agent's call, the supervisor's set will buzz when the IDN call is presented. However, if the supervisor is in continuous observe mode, but is not actively listening to an agent's call because the agent is not active on a call, then the set will ring when the supervisor receives an IDN call.

However, when the supervisor is observing via the handset or headset, then the set is still considered offhook even though the agent is not active on a call. If a set is offhook, the set will be buzzed if the supervisor receives a call.

Observe Agent key

When the supervisor presses the Observe Agent (OBV) key and an appropriate Agent key, a periodic warning tone is supplied. This warning tone lasts 256 ms and is repeated every 16 seconds. With X11 Release 14 and later, you can specify in your system that the tone be heard by the agent (OBTN = AGT), the caller and agent (OBTN = ALL), or neither (OBTN = NO).

If the Observe Warning Tone is specified in LD 23 (OBTN prompt), the ACD agent being observed hears an intermittent tone.

Silent Observe

As in the Observe Agent basic package, there is no indication that an agent is being observed except on the supervisor's telephone. This is the default setting for the system (OBTN = NO).

Observe Warning tone

This option provides an intermittent tone to the agent's telephone when the agent is being observed. No other parties in the call receive the tone. To select this option, specify OBTN = AGT in LD 23.

Audible tone

Specify OBTN = ALL in LD 23 for all parties in the call to receive the intermittent tone warning that the call is being observed.

Pressing one Agent key after another results in observation of each agent. The agent being observed is identified by POS ID on the supervisor's display. If any monitored agent needs the supervisor's help, the supervisor presses the Call Agent key and is connected into the call. During Agent Observe, any operation of the Hold key on the supervisor's telephone is not enabled. The supervisor can press any other key to terminate the observe.

The supervisor cannot observe an agent while the agent is establishing a conference call. Therefore, if the observed agent is establishing, or begins establishing, a conference at the time of observation, the observation is discontinued until the conference setup is complete. If the agent activates Call Transfer, any supervisor observation is suspended.

> ***Note:*** The observe feature will be cancelled when a 500/2500 type ACD agent performs a flashhook switch for transfer, conference, or not ready. In this case, the observe function deactivates and the lamp corresponding to the OBV key on the supervisor set darkens to indicate cancellation of the Observe agent feature.

If there is no conference loop available when the supervisor activates the OBV key, the associated lamp flashes to show that observation is not possible at this time. When a conference loop is available, the lamp is steadily lit and the supervisor can observe an agent.

Intercept treatments

The following intercept treatments occur when a supervisor activates Observe Agent or Call Agent:

— **Busy tone** if the telephone is currently being observed by another supervisor

— **Overflow tone** for non-ACD telephones and invalid POS IDs

— **Overflow tone** if the supervisor does not have Allow Observation of Supervisor CLS when trying to observe another ACD supervisor

Feature interactions

Hold

The audible tones for Agent Observe are not presented when an agent presses the Hold key. The tones are returned when the call on hold is restored.

Call Agent

Using the Call Agent (RAG) key, the supervisor's voice path is enabled and a normal conference exists between the supervisor, the agent, and the calling party.

The observed agent does not need to receive a supervisor's signal with the Answer Supervisor (ASP) key. The supervisor is automatically connected into the call and the Observe Tone continues to all call parties. When the supervisor uses the AGT key again, the conference stops and the Observe state is restored.

Conference Calling

An ACD agent must have at least as many conference time slots as possible parties available on each call. If an agent activates a Conference Call while being observed, the tone is suspended while the conference is being set up and returns to all involved parties when the call is active again. Internal callers to an agent being observed cannot activate a Conference Call; only an external caller or the agent can initiate a conference.

Call Transfer

Observe Tone is suspended while a call is being transferred and is restored only if the transfer is not completed (the call remains with the observed agent), or if the transfer telephone is also being observed and has Observe Tone allowed.

Make Set Busy

An agent cannot log out while active on a call. Observe tone is continuous until the call is complete and the agent logs off.

Emergency (EMR) key

With Audible Tone enabled it is not necessary for the agent to use the EMR key because the agent already knows when the supervisor is listening. However, if the agent does use the EMR key, the supervisor has an active speech path after pressing the Answer Emergency key. Agent Observe is suspended when the supervisor uses the AMG key to accept the agent's EMR signal.

Attendant Barge-In/Busy Verify

The Barge-In/Busy Verify warning tone is given to all call parties along with the Observe Tone. The Barge-In/Busy Verify tone repeats every 6 seconds, while the Observe Tone repeats every 16 seconds.

End-to-End Signaling

With X11 Release 17 and earlier, neither the agent nor the caller can use EES while the agent is in Silent Observe. With X11 Release 19 and later, EES is supported for the agent or caller while Silent Observe is operating. Also in X11 Release 19 and later, EES sends a special feed back tone to the call originator and a dual tone multifrequency (DTMF) tone to the terminating party. The feedback tone is synchronized with key depression by the call originator.

> ***Note:*** The improved EES feature only affects End-to-End Signaling between two telephones. There is no change in the End-to-End Signaling for telephones on a conference call.

Operating parameters

Data calls or calls to data telephones are not subject to Agent Observe.

Supervisors can only observe an established active call on an ACD telephone with an In-Calls key defined. An ACD telephone *cannot* be observed during the following call states:

— Idle

— Telephone is already being observed, or the supervisor to be observed is in the observe mode

— Call is connected to a Release Link Trunk

— Call involves an attendant

— Private line calls

— Conferencing calls

— Transferring calls

Note: The observation connection is retried every 256 ms. When the call state changes so that observation is allowed, an observation conference is established.

With the Silent Observe feature of ACD, End-to-End Signaling generated by an agent or customer cannot be heard by the supervisor. The supervisor hears a click resulting from the path being idled between the agent and the far end as End-to-End Signaling digits are pressed.

Supervisors must have Allow Observation of Supervisor CLS to observe other supervisors.

The ability to dial access a Position ID may eliminate the need for key/lamps on a supervisor's telephone. Eliminating the key/lamps affects other features as follows:

— Agent status information from the agent lamp is no longer available.

— The Display Agents key does not function.

To eliminate the agent key/lamp functions and maintain agent-to-supervisor assignments, the agent's telephone can be associated with a Supervisor Position Identification (SPID). Agent key functions, like call supervisor or emergency, continue to operate normally.

Agent Observe Login (Advanced)

In a Call Center, the supervisor can monitor the quality of service. However, some call centers do not want their supervisors to have the capability to observe the agents' personal calls. In some countries, there is a legal requirement to maintain the privacy of calls made by agents.

Without this feature, the supervisor can hear the agent's IDN (non-ACD) calls while observing the agent, even when the agent is logged out. This compromises the privacy of calls made by agents.

With this feature, the system administrator can choose three levels of restrictions on the observation of supervisors.

— No restrictions (RAO = NO)
The supervisor can observe any agent call. This is the default condition, and defines the supervisory function without this feature.

— Restrict Observe of IDN calls when logged out (RAO = YES)
The supervisor cannot observe agent IDN calls when the agent is logged out.

— Restrict Observe of all IDN calls (RAO = FULL)
The supervisor cannot observe any IDN calls by any agent regardless of whether the agent is logged-in or logged-out.

Operating parameters

The feature uses the Meridian 1 call processing software and the Meridian 1 Overlay 23 database administration program.

This feature does not impact hardware, firmware or loadware. There are no special limitations.

Feature interactions

In addition to the feature interactions for Agent Observe (Advanced), the following interactions apply to Agent Login Observe.

Hold

The audible tones for Agent Observe are not presented when an agent presses the Hold key. The tones are returned when the call on hold is restored. The supervisor can continue initiate observation of the agent, but hears nothing as the call is in a transient state.

— ACD Call on Hold

Once the agent retrieves the held call, the supervisor is put in conference irrespective of the value of RAO and agent login status.

— IDN Call on Hold

If RAO = No, the supervisor is put in conference once the agent retrieves the held call (whether the agent is logged-in or not).

If RAO = Yes, the supervisor is put in Observe Blocked state once the agent retrieves the held call in logged-out state. If the agent retrieves the held call in logged-in state, the supervisor is put in conference.

If RAO = Full, the supervisor was already put in Observe Blocked state against the IDN call. The supervisor is again put in Observe Blocked state when the agent retrieves the held call (irrespective of whether the agent is logged-in or logged-out).

Return to Queue on no Answer

The Return to Queue on no Answer, either logs out or puts the agent in NRD state if the agent fails to answer a ringing ACD call within the period entered at the RTQT prompt.

Agent Logged-out by RQNA when no IDN Call is Active

With RAO = Yes/Full, the supervisor enters the Observe Blocked state once the agent establishes an IDN call, if an agent under Continuous Observe establishes an IDN call.

Agent Logged-out by RQNA when an IDN call is on hold

If a logged-in agent puts in an IDN call and presses the InCalls key (i.e. when ACAA = Yes), the agent enters the idle agent queue and ACD calls are presented. If the agent fails to answer the ACD call before the RTQT (timer) times out, the agent is either logged-out or put in Not Ready state as configured by the RQNA feature.

If the agent is logged-out, the supervisor observing the agent enters the Observe Blocked state when the agent retrieves the held IDN call when RAO = Yes/Full. If the agent is put in the Not Ready state, the held call can be retrieved later and the agent can be observed by the supervisor when the call is retrieved if RAO = Yes.

> ***Note:*** If an IDN call is on hold, for C and D customers, the NRD key press is ignored.

Network Blocking

If the supervisor activates Agent Observe when no conference loops are available, the OBV key on the supervisor's set flashes indicating that the supervisor cannot observe the agent at this time. When a conference loop becomes available, the OBV key lights up, and the supervisor can press the AGT key or can enter the agent's position-id to commence observation.

Multiple Queue Assignment Agents

With Multiple Queue Assignment (MQA), agents serving multiple queues are governed by the setting of the RAO option depending on which queue is being served. The ACD data block used to obtain these options will be the one associated with the call being served. Thus, it is possible that an agent may be serving multiple queues with different RAO definitions. For this reason, it is strongly recommended that the Restricted Agent Observe option be set similarly for all groups of ACD queues that individual agents may be serving simultaneously.

For an IDN call, the RAO option of the ACD queue for which the agent has most recently been served will be applicable while logged-in. Suppose that there are three queues A, B and C with RAO options set to NO, YES and FULL respectively. The logged-in agent answers an IDN call. If the most recently served ACD call was from

— ACD queue A, the call is observable

— ACD queue B, the call is observable

— ACD queue C, the call cannot be observed

When the agent has logged-out, the RAO option of the ACD queue defined on key zero of the agent is applicable.

Feature packaging

This feature is part of the ACD advanced feature (ACD-B, package 41).

The Basic ACD package (BACD, package 40) is also required to provide this functionality.

Feature implementation

Overlay 23 is modified to accept the "Restricted Agent Observe", RAO, prompt.

This prompt accepts either “Yes”, “No” or “Full”. The default value is “No”. It is not case sensitive. Any other input to this prompt generates the error code SCH0101 (unable to match fields with stored mnemonics).The RAO prompt appears for ACD DN only.

Table 2 shows modified Overlay 23 prompts and responses.

Table 2
Overlay 23 Prompts and Responses

Prompt	Response	Description
REQ:	NEW/CHG	Add new data or change existing data. Create/modify parameter(s) for ACD/ADS/CDN/NACD/SCB block
TYPE:	ACD	Type of block
...	...	
SPCP	NO	Separate DCP from PCP indication
OBTN	NO	Observe tone options
RAO	No, Yes, Full	No: Restricted Agent Observe on Logout disabled. In such a case, the current functionality remains effective (default). Yes: Restricted Agent Observe on logout enabled Full: Restrict the supervisor from observing IDN calls from any of the agents at any time
CWTH	xxxx	Number of calls waiting in queue before call waiting lamp lights
NCWL	NO	New call waiting lamp settings

Feature operation

No specific operating procedures are required to use this feature.

Display Agents key (Basic)

A Display Agents key provides a summary of the status of all agents with AGT keys assigned to the supervisor. It gives a count of the number of agents in each of the four states at the moment the key is pressed. The following display is updated every time the Display Agents key is pressed.

aa—bb—cc—dd

Legend:

aa = the number of agents busy on ACD calls or in the Not Ready mode

bb = the number of agents waiting for ACD calls

cc = the number of agents busy on non-ACD calls

dd = the number of agent positions not occupied

If the associated Agent keys have not been configured or the agent position has not been configured, the display shows 00 in each of the fields in the display.

Display Waiting Calls (DWC) key

A Display Waiting Calls key can be assigned to a supervisor position for each ACD DN. The Display Waiting Calls key on the supervisor's telephone shows a measure of calls waiting that includes all calls that are in queue but have not been presented to an agent (that is, ringing on the agent's telephone).

The information on the Display Waiting Calls key is updated every time the key is pressed.

When the key is pressed, the Calls Waiting status for the ACD DN is displayed as follows:

aaa—bbb—ccc —dddd

Legend:

aaa = the number of calls currently waiting in the queue

bbb = the number of agent positions occupied for the ACD DN

ccc = the waiting time in seconds of the oldest call in the queue

dddd = This field is always zero (0) with Basic ACD and does not apply.

The lamp associated with the Display Waiting Calls key provides summary information on the Calls Waiting status for the ACD DN. When steadily lit, it means there is more than one call waiting in the queue. A Display Waiting Calls key for a particular ACD DN can be assigned to a maximum of eight supervisor positions regardless of the number of supervisors.

Display Waiting Calls (DWC) key (Advanced)

A Display Waiting Calls key can be assigned to a supervisor position for each ACD DN. The Display Waiting Calls key on the supervisor's telephone shows a measure of calls waiting that includes all calls that are in queue but have not been presented to an agent. Each ACD DN can be programmed on a DWC key on up to eight supervisor's telephones.

The Calls Waiting indicator relies on thresholds associated with Automatic Overflow. The Busy Threshold (BYTH) and Overflow Threshold (OVTH) govern Automatic Overflow and provide flashing and fast flashing lamps.

In X11 Release 15, two prompts allow the lamp states to operate independently of the Automatic Overflow parameters. Call Waiting Lamp Flash (CWLF) and Call Waiting Lamp Fast Flash (CWLW) can be configured to flash and fast flash the lamps even though the Automatic Overflow parameters have not been met or exceeded.

Depending on the threshold values set for each ACD DN, the following states are displayed. The information on the Display Waiting Calls key is updated every time the key is pressed.

— **Dark or blank** The queue is empty, or the number of calls in the queue is less than the Calls Waiting Threshold (CWTH).

— **Steadily lit** The CWTH has been met. The number of calls in the queue is less than the Call Waiting Lamp Flash (CWLF) threshold.

— **Flash** The CWLF threshold has been met. The number of calls in the queue is less than the Call Waiting Lamp Fast Flash (CWLW).

— **Fast flash** The OVTH has been met or exceeded.

When the key is pressed, the Calls Waiting status for the ACD DN is displayed as follows:

aaa—bbb—ccc—dddd

Legend:

aaa	=	calls waiting in queue
bbb	=	agent positions occupied
ccc	=	waiting time for the oldest call in the queue
dddd	=	sum of all calls in other source TOF queues, call request queue from another network location targeting this ACD DN, and CCR calls

Interflow key (Advanced)

The Interflow (ENI) key allows the supervisor, during excess traffic periods, to redirect incoming ACD calls to another predesignated DN, either on the same switch or through the external switching network to another telephone. Each Interflow key is associated with two DNs:

— An ACD DN (source queue).

— An Interflow DN (IFDN). The IFDN can consist of up to 23 digits, including any required access code or asterisk (*) to indicate dialing pause. With X11 Release 22, the IFDN can consist of up to 31 digits.

Only one Interflow key can be assigned to each ACD DN. The Interflow key must be accompanied by a DWC key for that ACD DN.

Interflow supplements Automatic Overflow. When a source queue meets or exceeds the threshold set for Automatic Overflow, the system checks all target queues (OVDNs). If the target queues meet or exceed the BYTH, or are in Night treatment, the incoming calls do not overflow.

When this overload condition exists, the supervisor is alerted by the DWC key fast flashing. The supervisor presses the Interflow key, and incoming calls meeting or exceeding the OVTH are interflowed to the IFDN.

The ENI key lamp flashes when the supervisor presses the key. It continues flashing until the key is pressed again and the feature is turned off. The flashing does not mean that calls are interflowing, simply that the feature is activated.

The Overflow status must be determined by the supervisor since calls should interflow to a destination that is not overloaded. The status of the target DN cannot be determined automatically. After activating Interflow, the supervisor should monitor the status of the call queues to decide when to disable Interflow by pressing the ENI key again.

If the Interflow destination is outside the Meridian 1 system, sufficient outgoing trunks should be available to handle the expected volume of outgoing traffic when the Interflow key is activated. Refer to “Enhanced Interflow” on page 89 for a description of automatic interflow from source queues.

Malicious Call Trace key

The Malicious Call Trace (TRC) key is supported on supervisor sets beginning with X11 Release 19.

Not Ready key (Advanced)

Pressing one of the following supervisor feature keys turns on the Not Ready key LED. Beginning with X11 Release 19, M2216ACD, M2008, and M2616 telephones with displays also show the message “NOT READY.”

— Observe Agent

— Call Agent

— Answer Agent

— Answer Emergency

When any of these feature keys are activated, the supervisor does not receive ACD calls on the In-Calls key.

To receive ACD calls, the supervisor presses the Not Ready key again (the Not Ready lamp goes dark) and is placed in the agent queue in the normal manner.

If a call is sent to an agent and the agent activates the Not Ready key, the EAR call is then placed at the head of its priority grouping call queue (of the agent group to which the call was connected). This ensures that the call is connected to the next available agent.

Supervisor and agent communication (Advanced)

The supervisor calls an agent by pressing the Call Agent (RAG) key. The Call Agent lamp lights steadily, and the supervisor presses the appropriate Agent key, or dials the agent's Position ID, to complete the call. The display shows the called agent's ACD POS ID. To call another agent, the supervisor presses another Agent key. The call to the previous agent is terminated, and the second call is placed. The dial method requires that the supervisor press the Agent key before any Position ID is dialed.

The Call Agent and Answer Agent functions are separate keys on the supervisor terminal. The supervisor can call an agent without having to answer all the agents attempting to talk to the supervisor. A supervisor can call only one agent at a time.

When the supervisor calls an agent, the agent's supervisor lamp flashes and the agent hears tone ringing. If the agent is busy or off-hook, the agent hears a three-second buzz from the receiver. The agent answers the call by pressing the Supervisor key. If the agent is engaged in a call, the call must first be put on hold by pressing the Hold key before the Supervisor key is pressed.

The supervisor answers the agent call by pressing the Agent Answer (AAG) key. The Position ID is displayed on the supervisor's telephone. A supervisor can answer only one agent at a time. All subsequent callers hear a busy tone.

The supervisor can conference with the agent and the calling party in two ways:

— The agent can initiate a conference.

— The supervisor can force a conference as described in Observe Agent.

Supervisor Control of Night Service (NSVC) (Advanced)

This feature allows the supervisor to force the system into Night Mode, instead of waiting for all the agents to log out. However, it is recommended that each agent log out with the MSB key even when the supervisor initiates Night Service (NSVC). If the agents do not log out, and the supervisor deactivates Night Mode, the agents are placed in the available agents queue.

This feature allows three different configurations: transition mode, night mode, and day mode.

Transition mode

Transition mode allows ACD agents to answer calls in the queue, while new incoming calls receive Night Service (NSVC) treatment. To select this mode, press the NSVC key and the letter T (number 8) on your dial pad.

Night mode

Night mode gives all existing calls in the queue NSVC treatment, as well as presenting NSVC treatment to new incoming calls. To select this mode, press the NSVC key and the letter N (number 6) on your dial pad.

Day mode

Day mode returns the queue to normal operation. To select this mode, press the NSVC key and the letter D (number 3) on your dial pad.

When the NSVC key is used, it must be deactivated to get out of Night Service. If the ACD agent positions are not logged in when the NSVC key is deactivated, the system remains in Night Service until an agent logs in. When not using the NSVC key, the system still goes into Night Mode when all agents log out.

Only one NSVC key can be defined per ACD DN. The status of the NSVC key is not indicated on agent positions. The NSVC key is assigned to a key/lamp on the supervisor's telephone. The NSVC key/lamp displays the following conditions:

— **Dark** The NSVC key is deactivated. This does *not* mean the ACD DN is out of Night Service. An agent must be logged in for the system to leave Night Service.

— **Fast flash** The system is in Transition Mode. Night Service is activated for new calls coming into the queue, but calls in the queue are handled normally. Once the queue is empty, the mode automatically changes to Night Service or Steadily Lit.

— **Steadily lit** Night Service is in effect. All new calls coming into the queue, and all calls remaining in the queue, now receive the Night Service treatment specified for that ACD DN.

To change the status of the NSVC key, the Supervisor can press the NSVC key and dial a special letter command, as shown in Table 3. When the letter is dialed, the light state changes as the system starts NSVC treatment. The system ignores incorrect commands.

Table 3
NSVC treatment commands

Press NSVC key and dial letter (#)	Light state before	Light state after	Mode entered
T (8)	dark	flashing	Transition
N (6)	dark or flashing	lit	Night
D (3)	lit	dark	Day

Feature interactions

Call Overflow

When the system is in the Night Mode, no new incoming calls are allowed to Automatic or Time Overflow.

Call Park Recall

If an ACD call has already Recalled back when the supervisor activates Transition Mode, the call is connected to the next available agent. If the call has already been recalled back when the supervisor activates the Night Mode, the call receives NSVC treatment. If an ACD call recalls back to an ACD DN in Night Mode, it receives the NSVC treatment defined for that ACD DN.

Call Transfer

If a call is transferred to an ACD DN that is in the Transition or Night mode, the call is given NSVC treatment. If a call is transferred to an ACD DN and is ringing that ACD DN on an agent telephone when the supervisor puts the system into Night mode, the transferred call continues to ring on the agent's telephone until it is answered or abandoned. If the call is in queue waiting for an agent when the supervisor puts the system into Night mode, the call receives Night treatment.

Calls Waiting Indication (AWC)

When the supervisor activates the Transition mode, the AWC lamp indicates only those calls still waiting in the queue. It does not reflect incoming calls that receive NSVC treatment. In the Night mode, the AWC lamp is dark and all incoming calls receive NSVC treatment.

Display Waiting (DWC)

When the supervisor activates the Transition Mode, the Display Waiting (DWC) lamp indicates only statistics for calls waiting in the queue. The Display Waiting Calls key on the supervisor's telephone shows a measure of calls waiting, including all calls that are in the queue but not yet presented to an agent.

Interflow

When the NSVC key is activated, incoming calls receive Night Service treatment and are not allowed to Interflow.

Time Overflow

Calls remaining in the source high-priority and non-priority queues, when NSVC is in the Transition mode, can still Time Overflow. However, when in the Night mode, calls remaining in the source queues *cannot* Time Overflow to target ACD DNs.

Calls in the source Time Overflow (TOF) queue can be answered by agents of the target ACD DN. Target ACD DNs cannot answer other source TOF calls when in the Transition mode. If a call is in the target queue because it overflowed by count, it cannot recall to its source queue if the source queue is in the Night mode. Once a call has overflowed, it is not possible to Overflow again. The call is not overflowed to the target unless the target can handle it. If it cannot Overflow, the call never leaves the source queue.

Operating parameters

Night Service cannot be changed through attendant administration.

Only one Night Service key can be defined per ACD DN.

If the supervisor's NSVC key becomes disabled, the feature is disabled in LD 11, or the key is removed while Night Service is active, another NSVC key must be defined on another supervisor's telephone to take the ACD DN out of Night Service.

Night Service does not require that all agents log out at the end of the day and log in again the next day. However, it is recommended that each agent log out with the MSB key even when the supervisor initiates Night Service (NSVC). If the agents do not log out, and the supervisor deactivates Night Mode, the agents are placed in the available agents queue. The supervisor should verify that all agents have logged out when activating the NSVC key.

System features

This section lists Automatic Call Distribution (ACD) system features in alphabetical order. Where applicable, feature names are followed by *Basic* if the feature is part of ACD basic features (ACD-A), package 45 or *Advanced* if it is part of ACD advanced features (ACD-B), package 41. For a list of the features in each package, refer to “Document overview” on page 7.

ACD Activity Codes for Not Ready State

Prior to the introduction of the Activity Codes for Not Ready State feature, an agent recorded call related activities only during an active call. The Activity Codes for Not Ready State feature allows an agent to use the existing Activity Code key to record activities while in the Not Ready State.

The Activity Code for Not Ready State feature is supported on the Meridian MAX 9.0 and later.

Operating parameters

This feature is designed only for the Meridian 1 proprietary sets with display. This feature is not supported for analog (500/2500) sets.

The Not Ready State is automatically invoked if the supervisor uses the following keys:

— Observe Agent

— Call Agent

— Answer Agent

— Answer Emergency

Note: When these keys are used, the Activity Code key lamp does not flash.

The Activity entry key and Activity key lamp is not affected if the Program key, the Display key, volume up/down, and handsfree keys are used

Activity Codes for Not Ready State cannot be activated during Walkaway, Logged Out or Make Set Busy States.

Feature Interactions

Meridian 1 proprietary set function keys

If any key other than the Activity, Handsfree Mute, Dial Pad, Display key or Volume Control key is pressed while entering an Activity code, the Activity key lamp turns dark and any code entered is lost.

Multiple Queue Assignment

If Multiple Queue Assignment (MQA) is in use, the default Activity code sent to the Meridian MAX becomes the default code for the queue of the agent's last call answered. The ACD D defaults back to the last ACD DN the set was logged into.

Incoming call

An incoming call to the agents Independent Directory Number does not interfere with the Activity Code entered, if the entry is completed before answering the call. If the Activity Code entry is not completed before answering an incoming call, the Activity Code is lost.

Return to Queue on No Answer

If a call is not answered by an agent, the call is sent back to the Automatic Call Distribution (ACD) queue and the agent's set is automatically put into the Not Ready State. The Activity key lamp does not flash.

Feature packaging

There are two minimum package combinations required to operate this feature, one for Meridian MAX and the other for the Symposium Call Center.

Feature package requirements for Meridian MAX are:

— Automatic Call Distribution, Account Code (ACNT) package 155

— Automatic Call Distribution Package D (ACDD) package 50

— ACDD, Auxiliary Link Processor (LNK) package 51

— Automatic Call Distribution Package D, Auxiliary Security (AUXS) package 114

Feature packaging requirements for Symposium are:

— Automatic Call Distribution, Account Code (ACNT) package 155

— Nortel Networks Symposium Call Center (NGCC) package 311

Feature implementation

LD 11 – Specify an Activity Code key for the set.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	a...a	Set type. Where a...a = Meridian 1 proprietary set with display capabilities (2006, 2008, 2009, 2016, 2018, 2112, 2216, 2616, and SL1.
TN	 l s c u c u	Terminal Number. l = loop, s = shelf, c = card, u = unit for Option 51C-81C. c = card, u = unit for Option 11C.
...	...	
KEY	xx ACNT	xx = Key number (the ACNT key cannot be configured as 0).
KEY	<cr>	KEY is prompted until a carriage return is entered.
...	...	

LD 23 – Enable Activity Codes in the Not Ready State for an ACD queue.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	ACD	Automatic Call Distribution data block. Requires Basic Automatic Call Distribution (BACD) package 40.
...	...	
ACNT	x...x	Account (Default activity code). Maximum 4 digits. Prompted if the ADS data block is built and the DCUS (Maximum number of ACD customers) setting in LD 17 is greater than 1.
NRAC	YES	Enable Not Ready Activity Codes. (NO) = default.
- NDFL	xxxx	Not Ready Default code. Must be equipped with ACDD or NGCC package.

Feature Operation

To enter an Activity Code in the Not Ready State:

1 Press the Not Ready key. The Not Ready key lamp lights and the Activity Code key lamp flashes.

2 Press the Activity key. The Activity key lamp lights steadily.

3 Enter the activity code.

Note: The * is used to delete one digit at a time. The # symbol delete all the digits entered.

4 Press the Activity key. The activity code is sent to the system and the Activity Code key lamp goes out. This completes the activity code entry.

5 An ACD agent can enter multiple activity codes for each activity completed during any Not Ready Session. Repeat steps 2-4 until all tasks are entered.

6 Press the Not Ready key. The Not Ready key lamp goes out and the agent is placed back into the ACD queue.

To use the Display key in the Not Ready State:

1 The agent presses the Display key. The set display is cleared.

2 The agent presses the Activity key. The previously entered Activity Code appears in the set display.

3 The agent presses the Display key twice (or presses the RLS key) to display the time and date.

If an activity code is not entered, the code configured in Overlay 23 (the Not Ready Default code setting) is sent to the system and the Activity Code Key lamp goes out.

The ACCT message timestamp is set the first time the Activity key is pressed.

ACD Answering Time in Night Service (Advanced)

With X11 Release 18 and later, ACD Answering Time in Night Service enhances ACD Night Service. If Recorded Announcement (RAN) is defined as an ACD Night Service, this enhancement allows a customer to define a period of time before incoming calls receive the recorded announcement; during this period of time, the calls receive ringback tone.

Operating parameters

There are no feature requirements.

Feature interactions

Attendant Extension to Queue

A call extended by an attendant or a Centralized Service attendant to an ACD Night DN receives ringback tone for the customer-defined period of time before receiving Night RAN treatment. There is no recall to the attendant after a 30-second period.

First/Second ACD RAN

If the ACD DN goes into Night Service while First/Second RAN is being provided, the incoming call receives ringback tone for the customer-defined time at the end of the First/Second RAN announcement, before receiving Night RAN treatment.

Load Management

A new NRTT command has been made available for Load Management to define or change the length of time before callers receive Night RAN. However, the NRTT prompt is only available if the International Supplementary Features (SUPP) package 131 is equipped. The existing POPT prompt has been modified to print the value of delay for the Night RAN. If the International Supplementary Features (SUPP) package 131 and Automatic Call Distribution Package D (ACDD) package 50 are both equipped, the prompt POPT skips the value of delay for Night RAN.

MFE/MFC calls

An incoming call over an MFE or MFC trunk receives ringback tone only when MFE or MFC signaling has ended.

Feature packaging

International Supplementary Features (SUPP) package 131.

Dependencies: Basic Automatic Call Distribution (BACD) package 40; Recorded Announcement (RAN) package 7; Make Set Busy (MSB) package 17, if used to go into Night Service; and Automatic Call Distribution Package B (ACDB) package 41, if used to go into Night Service.

Feature implementation

LD 23 – Define the length of time before callers receive Night RAN.

Prompt	Response	Description
...		
NRRT	0-511	RAN route number assigned for ACD Night Service.
NRTT	(0)-2044	Time, in seconds, before callers receive Night RAN. This prompt is only available if International Supplementary Features (SUPP) package 131 is equipped.

Feature operation

No specific operating procedures are required to use this feature.

ACD Call Delays

The Automatic Call Distribution (ACD) Call Delays enhancement introduces two new overlay programmable delay timers which are used when Call Forcing is activated for an ACD queue. The first delay timer offers an agent a few seconds break before having to answer the next call. The second delay timer ensures a caller, during forced answer, receives at least one ringback cadence before being connected to an agent.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131; and Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

LD 23 – This overlay is modified to accept responses to and print the new FADT and FADR prompts if the SUPP package (131) is equipped. Modify, create, or print data for each ACD queue:

Prompt	Response	Description
REQ:	NEW CHG PRT	Add new data. Change existing data. Print data.
TYPE	ACD	Type of data block: Automatic Call Distribution.
CUST	xx	Customer number.
ACDN	xxxx	Automatic Call Distribution Directory Number.
...		
ACPQ	...	

FORC	YES	Call Forcing option. Enter YES to enable Call Forcing.
- FADT	(0)-15	Force Answer Delay Timer. Enter delay time, in increments of one second, between calls when Call Forcing is enabled.
- FADR	(0)-15	Force Answer Delay timer for Ringback cadence. Enter delay time, in increments of one second, before call is connected to an agent.
...		

Printing the ACD data block includes the FADT and FADR prompts and their responses.

Feature operation

No specific operating procedures are required to use this feature.

ACD Call Priority

The Automatic Call Distribution (ACD) Call Priority enhancement introduces a modification to the way calls transferred by an ACD agent to an ACD queue are handled. Prior to the introduction of ACD Call Priority, calls which were answered by an ACD agent and transferred to any ACD Directory Number (DN) were put at the end of the target queue. With the introduction of ACD Call Priority, the system administrator has the ability, via service change, to allow calls transferred by an ACD agent to an ACD DN to be put in the priority queue, thereby allowing the transferred call to be answered prior to the unanswered calls in the target queue.

Whether or not a call transferred by an ACD agent to another ACD DN is given priority treatment is determined by the response to the new ACPQ prompt in Overlay 23.

When the response to the ACPQ prompt is YES, any calls which have been answered by an ACD agent and which have been transferred to any ACD queue are given priority treatment.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131; and Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

LD 23 – This overlay is modified to accept responses to and print the new ACPQ prompt if the SUPP package (131) is equipped. Modify, create, or print data for each ACD queue:

Prompt	Response	Description
REQ:	CHG, NEW, PRT	Request: Modify, create, or print data block.
TYPE:	ACD	Type of data block: Automatic Call Distribution.
CUST	0-99	Customer: Customer number to which data block belongs.
ACDN	xxxx	Automatic Call Distribution Directory Number.
...		
HMSB	...	
- ACPQ	(NO), YES	ACD Answer Call Priority Queue (denied) allowed. Respond with YES to allow, or NO to disallow, calls transferred by ACD agents to ACD DNs to be put into the priority queue.

Printing the ACD data block includes the ACPQ prompt and its response.

Feature operation

No specific operating procedures are required to use this feature.

ACD Call Waiting Thresholds (Advanced)

The Automatic Call Distribution Call Waiting Thresholds (ACDCWT) enhancement allows ACD Calls Waiting Threshold (CWTH), Busy Threshold (BYTH), and Overflow Threshold (OVTH) to be defined as a percentage based on the number of calls waiting in queue and the number of manned (logged in, not in Make Set Busy or Not Ready state) agent positions, rather than as a fixed number of calls.

When the number of ACD calls waiting exceeds a specified threshold, subsequent calls to that ACD DN (the source queue) can be diverted to another ACD DN (the target queue).

Three thresholds must be specified for the calls waiting in each ACD DN queue. The operating range boundaries defined by the thresholds are as follows: light, normal, busy, and overloaded. The three thresholds operating range are:

— Calls Waiting Threshold (CWTH)Upper limit of the light range

— Busy Threshold (BYTH)Upper limit of the normal range

— Overflow Threshold (OVTH)Upper limit of the busy range

Whether the ACD Call Waiting Threshold, Busy Threshold, and Overflow Threshold are defined as a percentage or number of calls is determined on a customer basis by responding to the OPT (option) prompt in Overlay 15. The allowable ACDCWT responses to the OPT prompt are THPD (Threshold Percentage Denied) and THPA (Threshold Percentage Allowed). THPD is the default.

The following is an example of the CWTH, BYTH and OVTH being reached if the THPA option is selected:

	Number of calls required in queue to reach threshold		
	CWTH = 100%	**BYTH = 150%**	**OVTH = 200%**
2 manned ACD positions	2	3	4
4 manned ACD positions	4	6	8

If all ACD positions are unmanned or out-of-service, any call in the waiting queue is treated as if OVTH has been exceeded (i.e., the call goes to overflow).

An agent in Not Ready status is treated as unmanned when the ACD queue thresholds are calculated.

Operating parameters

There are no feature requirements.

Feature interactions

There are no interactions with other features.

Feature packaging

International Supplementary Features (SUPP) package 131; Basic Automatic Call Distribution (BACD) package 40; and Automatic Call Distribution Package B (ACDB) package 41.

Feature implementation

LD 15 – The Customer Data Block service change accepts the options THPD and THPA to be defined as a customer option. The usage of the CWTH, BYTH, and OVTH thresholds is defined by the option selected. To allow the thresholds to be defined as percentages respond to the OPT prompt with THPA. To allow the thresholds to be defined as number of calls respond to the OPT prompt with THPD. THPD is the default.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	CDB ATT	Customer Data Block. Release 21 gate opener.
CUST	xx	Customer number.
...		
NCOS	...	
- OPT	(THPD) THPA	ACD Threshold Percentage Denied. ACD Threshold Percentage Allowed. When OPT = THPA, ACD CWTH, BYTH, and OVTH are defined as percentages of manned agent positions.
...		

LD 21 – When the Customer Data Block is printed the THPA or THPD option is included in the printout.

Prompt	Response	Description
REQ:	PRT	Print data block.
TYPE:	CDB	Type of data block: Customer Data Block.
CUST	xx	Customer number.

LD 23 – The values for the ACD thresholds must be redefined by responding to the appropriate prompts.

Prompt	Response	Description
REQ:	NEW CHG PRT	Add new data. Change existing data. Print data.
TYPE:	ACD	Type of data block: Automatic Call Distribution.
CUST	xx	Customer number.
ACDN	xxxx	Automatic Call Distribution Directory Number: queue to be modified.
...		
OBTN	...	
CWTH	0-(1)-2047	Calls Waiting Threshold Default is 1. If OPT in LD 15 is set to THPA then 0-2047 is the allowable range of percentages. If OPT in LD 15 is set to THPD then 0-2047 is the allowable range of calls.
...		
NCWL	...	
BYTH	(0)-2047	Busy Threshold. Default is 0. If OPT in LD 15 is set to THPA then 0-2047 is the allowable range of percentages. If OPT in LD 15 is set to THPD then 0-2047 is the allowable range of calls.
OVTH	0-(2047)	Overflow Threshold. Default is 2047. If OPT in LD 15 is set to THPA then 0-2047 is the allowable range of percentages. If OPT in LD 15 is set to THPD then 0-2047 is the allowable range of calls.

Feature operation

No specific operating procedures are required to use this feature.

ACD-CDR Connection Record (Basic)

The Connection Record option allows the customer to build and maintain a call profile that can be automatically transferred from one ACD agent to another.

Refer to *Call Detail Recording: Description and Formats* (553-2631-100) for a detailed account of the Connection Record option.

ACD DN/CDN Expansion

Feature description

The Automatic Call Distribution Directory Number/Control Directory Number (ACD DN/CDN) Expansion feature increases the number of ACD DNs and/or CDNs on a Meridian 1 system from 240 to a maximum of 1000 for each customer.

The maximum number of configurable ACD DNs and CDNs per system remains at 24 000. The maximum number of configurable customer groups remains at 100 per system. With the ACD DN/CDN feature, the Meridian 1 system limits remain the same.

Operating parameters

The ACD DN/CDN Expansion feature requires a Meridian 1 Option 81C system with a Call Processor Pentium PII (CP PII) card.

The ACD-C reports support a maximum of 240 ACD DNs as well as a maximum of 240 CDNs.

The time required to process the following functions increases with the additional number of configured DNs:

- ACD audit
- ACD data block initialization
- ACD Main audit
- ACD/CDN Queue Maintenance

- Agent Call Waiting Lamp and Display Waiting Call updates
- Auto Login during sysload
- Data Dump
- Enabling the Ring Again feature
- First and Second Recorded Announcements
- Message Waiting Lamp Reset
- Night Call Forward
- Night RAN Route
- Night Treatment
- Restoring ACD calls
- Revert Default of a CDN by Symposium Call Center Server
- Sysload
- Value Added Server and Teletype Terminal interactions

Feature interactions

The following applications continue to support 240 ACD DNs/CDNs:

- CallPilot
- Customer Controlled Routing and Meridian Link
- Meridian Mail
- Meridian MAX releases that support reporting on 240 ACD DNs and/or CDNs.
- Symposium Call Center Server
- TAPI Service Provider

Feature packaging

The ACD DN/CDN Expansion feature introduces the Automatic Call Distribution Expansion package 388 (ACDE). The ACD DN/CDN Expansion feature also requires the following existing packages:

- Automatic Call Distribution B (ACDB) package 41
- Automatic Call Distribution C (ACDC) package 42

- Automatic Call Distribution A (ACDA) package 45
- Automatic Call Distribution D (ACDD) package 50

Feature implementation

This feature does not change the procedures for configuring ACD queues in LD 23.

Feature operation

No specific operating procedures are required to use this feature.

ACD Dynamic Queue Threshold

The Automatic Call Distribution (ACD) Dynamic Queue Threshold enhancement modifies the way ACD Call Waiting Thresholds are calculated when the percentage option is selected. Prior to the introduction of ACD Dynamic Queue Threshold enhancement, agents that were in Not Ready status were treated as available (manned) when calculating the ACD queue thresholds. With the introduction of the ACD Dynamic Queue Threshold enhancement, agents in the Not Ready state are treated as unavailable (unmanned) when calculating the ACD queue thresholds.

Operating parameters

There are no feature requirements.

Feature interactions

ACD Call Waiting Threshold

The Automatic Call Distribution (ACD) Dynamic Queue Threshold enhancement modifies the way ACD Call Waiting Thresholds are calculated when the percentage option is selected. The ACD Call Waiting Thresholds as percentages is selected when the THPA option is selected as the customer option (OPT) in Overlay 15 (This option was introduced for the ACD Calls Waiting Threshold feature for Phase 4).

Feature packaging

International Supplementary Features (SUPP) package 131; and Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

No change to existing configuration is required for the Automatic Call Distribution Dynamic Queue Threshold feature.

Feature operation

No specific operating procedures are required to use this feature.

ACD in Night Service

This enhancement allows calls to an Automatic Call Distribution (ACD) Directory Number (DN) in Night Service and in Position Busy to be routed to the night DN, rather than being returned to the originating queue. This treatment applies even if the ACD DN is in interflow state. This call processing is effected by entering "YES" to the Force Night Call Forward (FNCF) prompt in Overlay 23.

The interflow treatment supplements the overflow treatment in the way that excessive ACD call volumes are handled. Incoming ACD calls are transferred to the Interflow DN of the target queue if any of the following conditions are met:

— The number of calls to a source queue reaches the overflow threshold (OVTH), or

— The number of calls to target queues designated as overflow queues have reached the busy threshold (BYTH).

Interflow can be invoked manually (by an interflow key), or automatically (by selecting the Automatic Interflow option in Overlay 23).

The enhanced operation may be explained as follows: ACD1 has ACD2 as its night DN. ACD2 is in interflow state (i.e., incoming calls are routed to the interflow DN to receive interflow treatment). A call comes in to ACD1. If FNCP = YES, the call is routed to the Night DN (which is ACD2 that is in interflow state meaning the call receives interflow treatment rather than remaining in the ACD1 queue).

Operating parameters

This product improvement applies only to the standalone night treatment – it does not apply to Network ACD.

Feature interactions

There are no interactions with other features.

Feature packaging

Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

LD 23 – Allow/deny incoming calls to be routed to the night DN, even if it is in interflow state:

Prompt	Response	Description
...		
FNCF	(NO), YES	Allow (deny) calls to be routed to the night DN.

Feature operation

No specific operating procedures are required to use this feature.

ACD Least Call Queuing (Advanced)

In normal handling of Automatic Call Distribution (ACD) calls, incoming calls are distributed to ACD agents based on a priority of which agent has been idle the longest. This ensures that the time spent by the agents in answering calls is balanced amongst them.

In some ACD environments, however, the requirements exists that incoming calls be distributed to agents based on the number of answered calls and not on the time spent being idle. This is done by dynamically modifying the agent priority based on the number of calls that each agent has answered. As a result, an agent that has answered the least number of calls is given the highest priority.

The Least Call Queuing feature allows an ACD supervisor to request, from the Load Management command RACN, an ACD report showing the number of calls that have been answered by each agent starting from the beginning of the working day. The supervisor can then modify agent priority as required, and send the information back to the Meridian 1. The Meridian 1 then affects the call handling according to the requested priority.

Operating parameters

The International Supplementary Features (SUPP) package 131, and Basic Automatic Call Distribution (BACD) package 40 must be equipped.

There is no communication protocol between the Meridian 1 and the PC, so that there is no handshaking between the Meridian 1 and the PC. Also, error detection and correction is not provided.

Feature interactions

There are no interactions with other features.

Feature packaging

Automatic Call Distribution Package B (ACDB) package 41.

Feature implementation

No change to existing configuration is required for the MFC Automatic Call Distribution Least Call Queuing feature.

Feature operation

No specific operating procedures are required to use this feature.

ACD Night Call Forward without Disconnect Supervision (Advanced)

The X11 Release 23 feature, ACD Night Call Forward without Disconnect Supervision, allows Central Office (CO) Loop Start trunks terminating to an ACD DN to Night Call Forward or Interflow calls to internal or external sets.

Note: For the ACD Night Call Forward without Disconnect Supervision feature, a CO Loop Start trunk refers to any trunk without disconnect supervision.

Call Scenarios

The following scenarios (Call Scenarios A-G) apply to calls arriving at an ACD DN from a CO Loop Start Trunk.

Call Scenario A

The following call sequence applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to a local set:

1 An external party calls an ACD DN via a CO Loop Start trunk.

2 The call is Night Call Forwarded to the pre-defined local set.

3 The set answers the call.

4 The originator disconnects. The trunks remain busy until the set disconnects.

5 The set disconnects. The trunks become idle.

Call Scenario B

The following call sequence applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to an external ACD DN via a route that has the Answer and Disconnect supervision prompt (SUPN) set to YES in Overlay 14.

1 An external party calls an ACD DN via a CO Loop Start trunk.

2 The call is Night Call Forwarded to the pre-defined external ACD DN via a route.

3 The agent answers the call.

4 The agent disconnects. The trunks become idle.

Call Scenario C

The following call sequence applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to a local ACD DN which is in the Not Ready state.

1 An external party calls ACD DN 1 via the CO Loop Start trunk.

2 The call is Night Call Forwarded to the pre-defined local ACD DN 2 which is in the Not Ready state.

3 The caller abandons the call.

4 The call stays in the ACD DN 2 queue for a couple of seconds and then disappears. The trunks become idle.

Call Scenario D

The following call sequence applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to an external ACD DN with first Recorded Announcement (RAN) defined and the Return Answer Supervision by RAN to originator (ASUP) prompt set to YES in Overlay 16.

1 An external party calls ACD DN 1 via a CO Loop Start trunk.

2 The call is Night Call Forwarded to pre-defined external ACD DN 2 with first RAN defined and ASUP set to YES. The caller hears the Recorded Announcement.

3 The caller abandons the call before the ACD DN 2 agent answers.

4 The trunks remain busy. The call stays in the ACD DN 2 queue until the agent answers the call.

5 The agent disconnects the call. The trunks become idle.

Call Scenario E

The following call sequence applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to an external ACD DN with first RAN defined and ASUP set to NO.

1 An external party calls ACD DN 1 via the CO Loop Start trunk.

2 The call is Night Call Forwarded to pre-defined external ACD DN 2 with first RAN defined and ASUP set to NO.

3 The caller does not hear the Recorded Announcement and abandons the call before the ACD DN 2 agent answers.

4 After a couple of seconds, the call disappears. The trunks become idle.

Call Scenario F

The following call sequence applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to an attendant.

1 An external party calls an ACD DN via a loop start trunk.

2 The call is Night Call Forwarded to the attendant.

3 The attendant answers the call.

4 The originator disconnects, but the trunks remain busy until the attendant disconnects.

5 The attendant disconnects. The trunks become idle.

Call Scenario G

The following scenario applies to a call that arrives at an ACD DN from a CO Loop Start trunk and is Night Call Forwarded to a Controlled DN (CDN).

1 An external party calls an ACD DN via the CO Loop Start trunk.

2 A call is Night Call Forwarded to a CDN with a script “ROUTE TO a set”.

3 The caller abandons the call before the set answers.

4 The call continues to ring on the set for a couple of seconds, but then the trunks become idle.

Operating parameters

A trunk with SUPN set to NO in Overlay 14 should not be used as a destination for either a Night Call Forward DN or an Interflow DN. If this is the case and the caller abandons the call, the incoming and outgoing trunks are locked out. The destination set rings until the abandoned call is answered and the set goes on-hook.

It is not recommended that RAN be provided to calls from CO Loop Start trunks. In the case where RAN is provided to these trunks, the RAN routes should have ASUP set to YES, so that the caller hears the Recorded Announcement (RAN). However, because Answer Supervision is returned when RAN is provided, the trunks hang if not answered by the agent (Refer to Call Scenario D).

An ACD DN should not be Night Call Forwarded to a local set that Call Forward No Answers to Meridian Mail. If this is the case and the originator presses the Release key to disconnect the call, Meridian Mail waits until it times out. The time for the trunks to become idle depends on the Meridian Mail timer. If the originator exits “gracefully” from Meridian Mail, the trunks immediately become idle.

A call arrives from a CO Loop Start trunk to an ACD DN that has Call Force enabled (FORC = YES in LD 23). The call is force answered to an unattended agent set that is not in the Not Ready or Make Set Busy modes. In this case, the trunk is hung until the agent returns and disconnects the call, even if the caller disconnects.

Feature interactions

Call Forward No Answer

When an ACD DN Night Call Forwards to a local set that Call Forward No Answers to Meridian Mail, two scenarios occur depending on how the originator answers the call. If the originator presses the Release key to disconnect the call, Meridian Mail waits until it times out. The time for the trunks to become idle depends on the Meridian Mail timer. If the originator exits “gracefully” from Meridian Mail, the trunks immediately become idle.

Called Party Disconnect Control

With Automatic Call Distribution without Disconnect Supervision (ADSP) package 289 enabled, calls on routes that have Called Party Disconnect Control enabled can Night Call Forward.

Charge Account/Authorization Code (CAB) in Night Mode - Max 6

If a caller or trunk without disconnect supervision disconnects from a call while trying to Night Call Forward, a CAB message is not sent to MAX 6 or later. This is because the switch does not know that the caller disconnected.

Federal Communication Commission (FCC) Compliance for Direct Inward Dialing (DID) Answer Supervision

If the FCC package 223 is equipped, answer supervision is automatically returned to the Central Office when RAN is provided or when the call is answered at the remote node.

Meridian 911

Meridian 911 (M911) calls always have disconnect supervision. The ACD Night Call Forward without Disconnect Supervision feature does not change this.

Meridian Mail

When an ACD DN Night Call Forwards to an internal/external set that Call Forward No Answers to Meridian Mail, two scenarios occur depending on how the originator answers the call. If the originator presses the Release key to disconnect the call, Meridian Mail waits until it times out. The time for the trunks to become idle depends on the Meridian Mail timer. If the originator exits "gracefully" from Meridian Mail, the trunks immediately become idle.

Network Automatic Call Distribution

Network Automatic Call Distribution (NACD) does not allow a call to overflow via the NACD night/day table if the call comes from a trunk without disconnect supervision.

Feature packaging

The following package is required for ACD Night Call Forward without Disconnect Supervision:

— Automatic Call Distribution without Disconnect Supervision (ADSP) package 289, which depends on the following packages:

- Automatic Call Distribution Package A (ACD-A) package 45 for Night Call Forward (NCFW)
- Automatic Call Distribution Package B (ACD-B) package 41 for Interflow DN (IFDN)

Feature implementation

Note: All ACD agents and ACD blocks must exist prior to implementing this feature.

LD 23 – Define a Night Call Forward DN for an ACD DN.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	ACD	Automatic Call Distribution block.
CUST	xx	Customer number.

ACDN	x...x	Automatic Call Distribution Directory Number. ACDN can have a maximum of 4 digits or a maximum of 7 digits with DNXP package 150.
...		
NCFW	x...x	Night Call Forward DN for ACD calls. With X11 Release 22 and later, the NCFW DN can have a maximum of 31 digits.

LD 14 – Define a Night Call Forward Destination trunk.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	a...a	Trunk type.
TN	l s c u c u	Terminal Number. For Option 11C.
...		
SUPN	YES	Answer and disconnect supervision required. NO = Answer and disconnect supervision not required (default).

Feature operation

No specific operating procedures are required to use this feature.

Alternate Call Answer (Basic)

Alternate Call Answer (ACA) allows the customer to choose, on a per queue basis, whether ACD calls should be blocked for an agent set with an Individual Directory Number (IDN) call on hold.

When Alternate Call Answer is enabled, if an agent notices an ACD call waiting through the AWC key or the supervisor terminal while active on an IDN call, the agent can put the IDN call on hold and press the dark In-Calls key to return to the idle agent queue. The In-Calls key stays dark until an ACD call is presented.

When Alternate Call Answer is disabled and an agent is active on an IDN call, putting that call on hold and pressing the dark In-Calls key does not return the agent to the idle agent queue. No ACD calls is presented.

Be sure to evaluate operating procedures before enabling this feature. For example, ACA should not be used if an agent puts an IDN call on hold and walks away. ACD calls could be connected while the agent is gone.

Feature interactions

500/2500 ACD sets

Alternate Call Answer does not support 500/2500 ACD sets.

Answer/call ACD supervisor

Answer/call ACD supervisor is supported. The agent can press the Supervisor (ASP) key to answer/call the ACD supervisor, if

— the agent uses the Supervisor key to talk to the ACD supervisor and

— an ACD call is waiting in the queue

The Alternate Call Answer option then allows the agent to

— press the Hold key to put the supervisor call on hold

— press the Dark In-Calls key to be ready to answer an incoming ACD call

Call Transfer

Call Transfer is supported. The Alternate Call Answer Option allows the agent to press the

— hold key to put the call on hold after the third party answers the call and before completing the transfer

— dark In-Calls key to be ready to answer an incoming ACD call

Conference

Both three-party and six-party conferences are supported. The Alternate Call Answer feature allows the agent to press the

— hold key to put the established call on the Conference key on hold

— dark In-Calls key to be ready to answer an ACD call

No Hold Conference is not supported.

Dial Intercom

Dial Intercom (DIG) is supported. If the agent makes a call using the DIG key and an ACD call is waiting in the queue, the Alternate Call Answer option allows the agent to press the

— hold key to put the DIG call on hold

— dark In-Calls key to be ready to answer an incoming ACD call

Hot Line

Hot Line (HOT) is supported. If the agent makes a call using the HOT key and an ACD call is waiting in the queue, the Alternate Call Answer option allows the agent to press the

— hold key to put the HOT call on hold

— dark In-Calls key to be ready to answer an incoming ACD call

Multiple Call Ringing/Non-ringing

Multiple Call Ringing/Non-ringing (MCR/MCN) is supported. If the agent makes a call using the MCR/MCN key and an ACD call is waiting in the queue, the Alternate Call Answer option allows the agent to press the

— hold key to put the MCR/MCN call on hold

— dark In-Calls key to be ready to answer an incoming ACD call

Private Line Ringing/Non-ringing

Private Line Ringing/Non-ringing (PVR/PVN) is supported. If the agent makes a call using the PVR/PVN key and an ACD call is waiting in the queue, the Alternate Call Answer option allows the agent to press the

— hold key to put the PVR/PVN call on hold

— dark In-Calls key to be ready to answer an incoming ACD call

Ring Again

Ring Again (RGA) is supported.

Single Call Ringing/Non-ringing

Single Call Ringing/Non-ringing (SCR/SCN) is supported. If the agent makes a call using the SCR/SCN key and an ACD call is waiting in the queue, the Alternate Call Answer option allows the agent to press the

— hold key to put the SCR/SCN call on hold

— dark In-Calls key to be ready to answer an incoming ACD call

Voice Calling

Voice Calling (VCC) is supported. If the agent makes a call using the VCC key and an ACD call is waiting in the queue, the Alternate Call Answer option allows the agent to

— press the Hold key to put the VCC call on hold

— press the Dark In-Calls key to be ready to answer an incoming ACD call

Automatic Overflow (Advanced)

Automatic Overflow allows incoming ACD calls to be diverted from the call queue in which they would normally be placed (source queue) to another queue (target queue) during busy periods. Up to three target queues can be designated for each source queue. The target queue that meets the requirements for Overflow (the queue is not handling a volume of calls that exceeds a predefined busy threshold) is selected as the queue to which incoming calls are redirected. Overflow does not occur unless at least one of the Overflow queues meets these requirements. The situation is evaluated for each new incoming call.

Automatic Overflow only applies to new calls attempting to enter a queue; calls already in the queue are not transferred to a target queue. Priority calls that are overflowed to another queue retain their priority status in the target queue. The various treatments (such as RAN and Music) specified for the source queue remain in effect for each call, even though it is placed in the target queue.

Three threshold levels must be established for each ACD DN involved in Automatic Overflow:

— CWTH = Calls Waiting Threshold

— BYTH = Busy Threshold

— OVTH = Overflow Threshold

The threshold levels are set for each ACD DN during installation and can be modified by service change or load management.

The first threshold (CWTH) is for lamp status only.

When the second threshold (BYTH) is met or exceeded, the queue is busy. This queue cannot accept any calls attempting to overflow from other queues.

When the third threshold (OVTH) is met or exceeded, the queue is in an Overflow state. The next new call into the queue attempts to overflow.

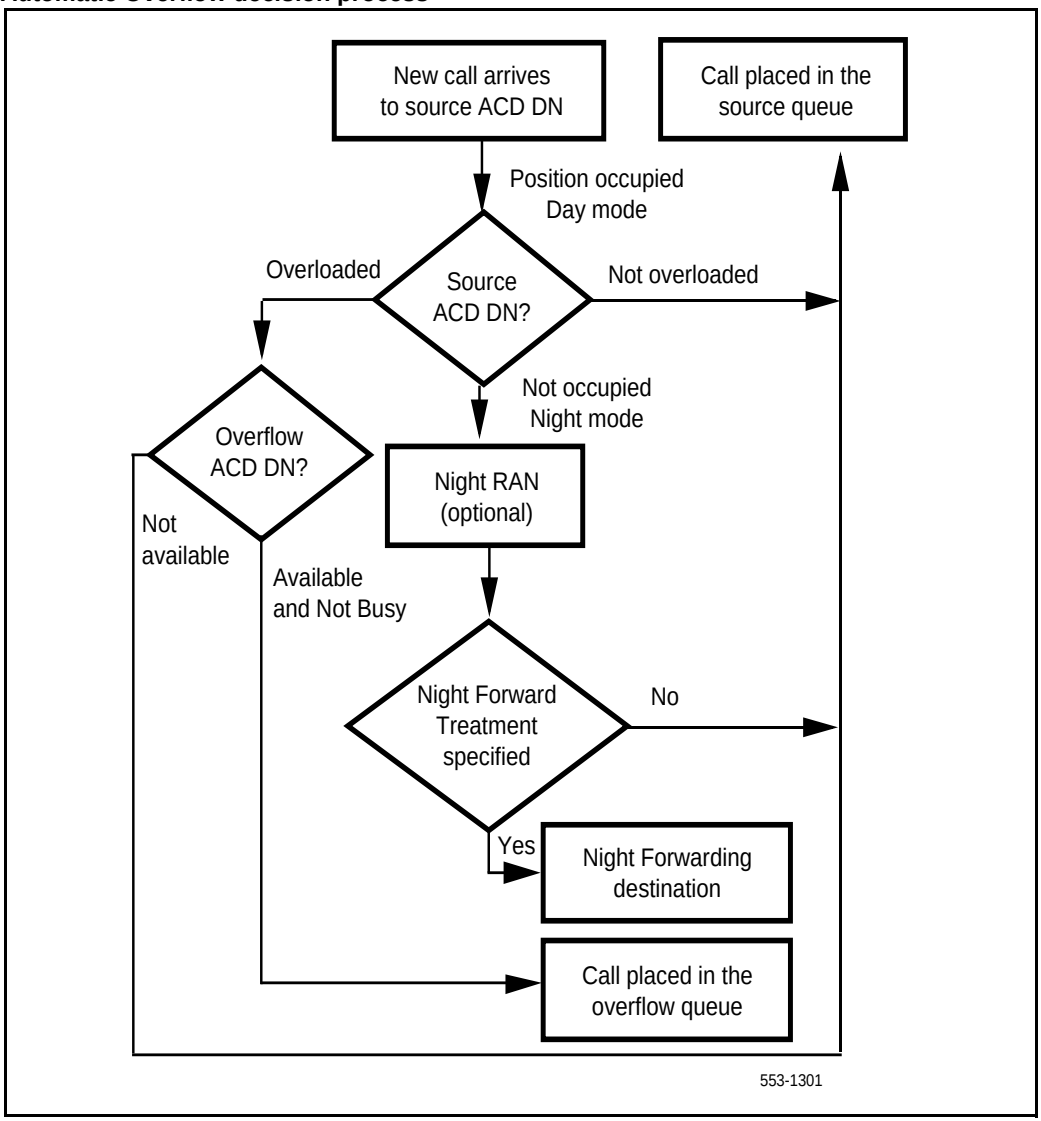
> ***Note:*** For a complete discussion of lamp states, see "Calls Waiting Indication key (AWC) (Basic)" on page 24 and "Calls Waiting Indication key (AWC) (Advanced)" on page 25, or "Display Waiting Calls (DWC) key" on page 26 and "Display Waiting Calls (DWC) key (Advanced)" on page 27.

The system checks the Overflow queues one at a time. The first queue operating below the BYTH is selected as the target queue. The call is then placed in the target queue and does not return to the source queue. Selection of a target queue is performed for each new call coming into the source queue. Thus, if a target queue meets or exceeds the BYTH, then another queue is checked as a target queue. If an available target queue is not found, the call is placed in its source queue.

Source and target queues must be within the same ACD customer, unless Network ACD (NACD) is allowed. NACD uses timed overflow rather than automatic overflow. See *Network ACD: Description and Operation* (553-3671-120).

A physical telephone must exist and be in the Not Ready state for the Automatic Overflow decision process illustrated in Figure 3.

Figure 3
Automatic Overflow decision process



Call Forcing (Advanced)

Call Forcing is an alternative to standard manual answering. This feature automatically presents a call to an agent in an answered state. Consequently, if the Call Forcing option is enabled, the In-Calls key is not pressed to answer the call.

An ACD call answered by Call Forcing can be completed in one of the following ways:

— If the caller releases and disconnect supervision is provided, the agent is returned to the agent queue automatically after a two-second delay.

— If post-call processing is not required, the agent presses the In-Calls key or release key to force a disconnect. The agent is returned automatically to the agent queue after a two-second delay.

— If post-call processing is required, the Not Ready key is operated. When post-call work is finished, the In-Calls or Not Ready key is pressed, and the agent is inserted immediately into the agent queue.

Before X11 Release 16, there is a predetermined two-second delay between when the agent releases from an ACD call and when the agent is available to receive the next ACD call.

X11 Release 16 and later provides a delay, from 0 to 30 seconds, before presenting another call. When an agent disconnects from an ACD call, the agent has from 0 to 30 seconds until the next ACD call can be presented based on the delay time set in the system software with the FCFT prompt in Overlay 23. The default is two seconds. See the *Administration* (553-3001-311)

Feature interactions

Priority Agent

Flexible Call Forcing interacts with Priority Agents. If a call comes into a queue while the priority 1 agent is still in a delay state (the Flexible Call Forcing timer has not expired), the priority 2 agent receives the call. The priority 1 agent is not returned to the idle agent queue until the specified time is up.

ACD Call Delays

The ACD Call Delays enhancement introduces two new programmable delay timers which are used when Call Forcing is activated for an ACD queue. The first delay timer ensures that a caller, during forced answer, receives at least one ringback cadence before being connected to an agent. This timer is configured at the FADR (Force Answer Delay time for Ringback cadence) prompt in Overlay 23. The second delay timer offers an agent a few seconds break before having to answer the next call. This delay timer is configured at the FADT (Force Answer Delay Time) prompt in Overlay 23.

Headset and handset

Call Forcing can be used with agent telephones equipped with a headset, a plug-in handset, or a standard handset. When using either a headset or a plug in handset, Call Forcing operates as described. Unplugging the headset or handset activates Make Set Busy. When using a telephone with the standard handset and switchhook, Call Forcing works only when the handset remains off-hook.

Call Interflow (Advanced)

Call Interflow gives the ACD supervisor the ability to redirect excess traffic to another predesignated Interflow DN (IFDN). The Interflow (ENI) key supplements Automatic Overflow. When the Interflow (ENI) key is pressed, the Interflow action occurs only after the following events:

— the number of calls in the source queue equals or exceeds the Overflow Threshold (OVTH)

— all target queues specified for Automatic Overflow are at or past their Busy Thresholds (BYTH), or are in Night service

— the ENI key has been pressed

The number of calls in the Time Overflow (TOF) queue is added to the number of calls in the high-priority and non-priority queues to determine if the OVTH or BYTH has been exceeded.

If the Interflow DN (IFDN) is an internal ACD DN and the source DN has a TOF Timer (TOFT) defined, then the call can recall back to the source ACD DN. Refer to the sections on Overflow configurations for details on call configurations when the IFDN is defined as an internal ACD DN.

Note: If a call routes to an Interflow ACD DN in Night Service, the call is rerouted back to the source queue. It does not forward to the Night Call Forward (NCFW) DN for the target queue.

Enhanced Interflow

Call Interflow is enhanced to provide Interflow mode automatically from source queues without using the Enable Interflow (ENI) key. This enhancement also monitors calls after evaluating the Interflow destination. If a busy condition is encountered, then there are two possible treatments. Only one of these treatments is presented to a call:

— Busy Tone Returned

— Link to the Source Queue

Calls from high-priority trunks are put in the high-priority queue. All other calls are put in the non-priority queue. Once in a queue, calls are allowed to receive RAN, music, and other options as defined for the source queue.

Enhanced Interflow operates in three steps. As long as the Interflow DN (IFDN) for the source queue is another ACD DN, the system can send Interflow calls to another queue for a total of three ACD DNs. However, if all three IFDNs are in the Night mode or Interflow state, the call is placed in the source queue (see Figure 4).

Respond to the BUSY prompt in Overlay 23 to treat the following call types:

— Internal

— Attendant

— CO/Trk

— DID/Tie Trk

Busy or Link to Source is defined for these four call types. CO/trk calls always link to source because they cannot return answer supervision. Table 4 defines the treatments, based on call type, for IFDN destinations available to incoming calls.

Figure 4
IFDN levels

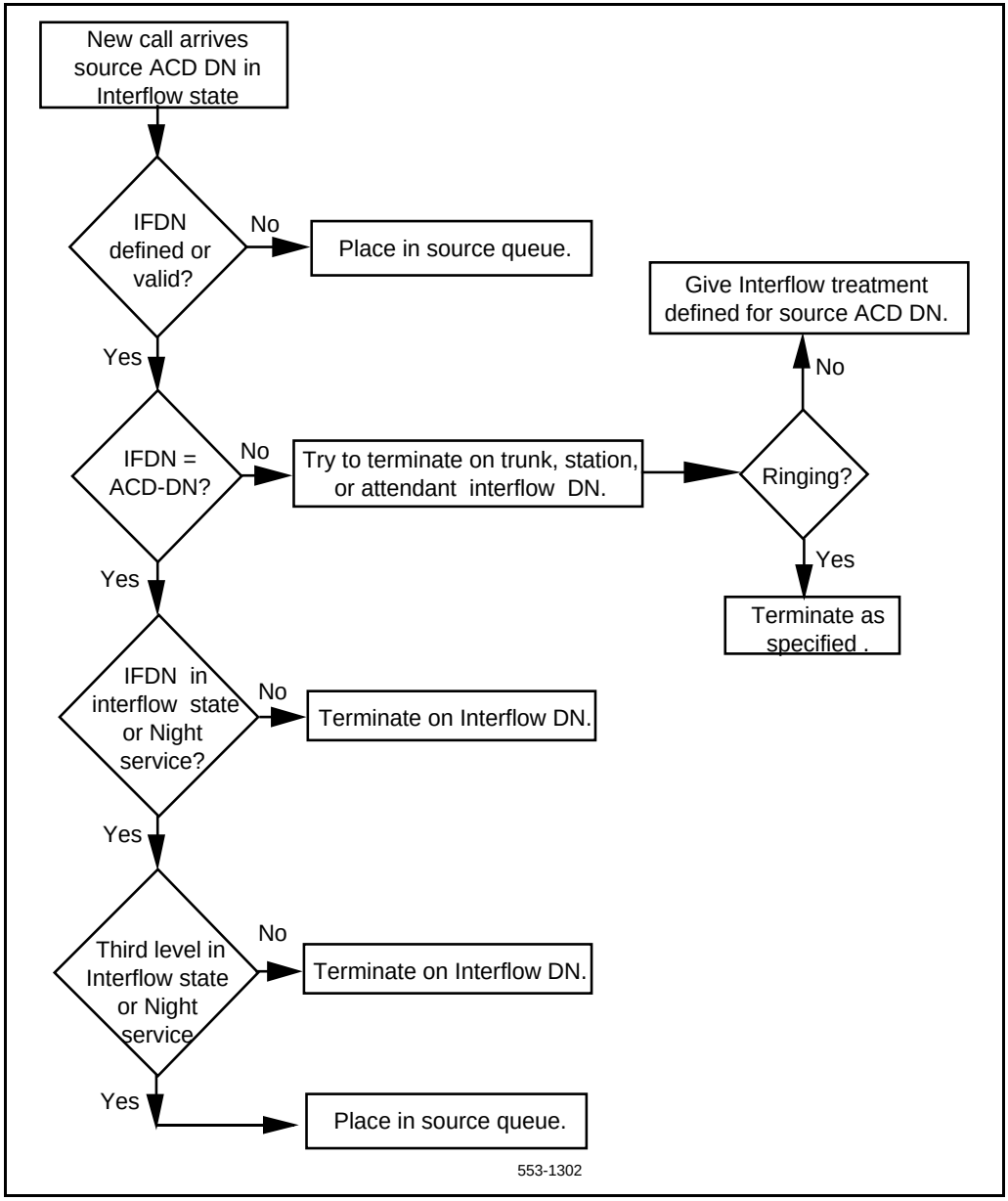


Table 4
IFDN treatment by Call Type when the IFDN is unavailable

		Call type (originating)			
		Telephone	**Attendant**	**CO trunk**	**DID/Tie trunk**
IFDN	**Telephone**	Busy tone	Busy tone, link to source queue	Link to source queue	Busy tone, link to source queue
	Attendant	Busy tone	Link to source queue	Link to source queue	Busy tone, link to source queue
	ACD DN	Busy tone, link to source queue	Busy tone, link to source queue	Link to source queue	Busy tone, link to source queue
	Trunk ACOD	Busy tone	Busy tone, link to source queue	Link to source queue	Busy tone, link to source queue
	NARS	Busy tone	Link to source queue	Link to source queue	Busy tone, link to source queue
	Invalid DN	Link to source queue	Busy tone, link to source queue	Relink to source queue	Link to ACD source queue

Feature interactions

ACD Night Call Forward

If the Night Call Forward (NCFW) number is another ACD DN in the Interflow state, the call is sent by Interflow mode to the next level. If the call has already been sent to the third level, it waits until the NCFW DN queue is available. When room is available in the queue, the call is placed in the NCFW queue.

ANI route selection

An Access Code for ANI trunks can be set as an Interflow treatment destination.

Attendant extension

The attendant can only extend calls to a queue in Interflow when the Interflow treatment is linked to the source queue.

Attendant Overflow Position

Calls that are given Interflow or Night Call Forward treatment to an attendant can be answered.

Class of Service restrictions

If the IFDN is trunk restricted from the call originator, the call is returned to the source queue instead of receiving an overflow or busy tone.

Do Not Disturb (DND)

If the attendant has activated DND on the IFDN telephone and its Hunt DNs are busy, the call receives Interflow treatment as if the IFDN were busy.

Invalid IFDN

If the IFDN for the source queue is invalid, error code ERR4277 is output and the call is linked back into the source queue. For definitions of the error codes that are output, refer to *X11 System Messages Guide* (553-3001-411).

Network Ring Again (NRAG)

If the Interflow treatment defined links calls back to the source queue, the NRAG call is *not* allowed to ring again.

Automatic Overflow

A call that is subject to the Interflow treatment, but is returned to the source queue instead, cannot be treated with the Automatic Overflow treatment to a target ACD DN.

Ring Again (RGA)

Internal calls treated with the Interflow treatment from an internal telephone are allowed to ring again to the IFDN. If the IFDN is an Attendant in Night Service, then the internal telephone can ring again to the IFDN.

TGAR restrictions

If the IFDN is subject to TARG/TGAR restrictions, the call is linked to the source queue instead of receiving an overflow tone.

Time Overflow

A call that has interflowed to another ACD queue can be returned to the source queue based on the source queue's Time Overflow Timer (TOFT). The call is eligible to be answered by an agent in the source queue, or the target queues specified as Overflow DNs (OVDN).

Trunk Group Busy

If the IFDN is a Route Access Code and all trunks in the route are busy, calls transfer to the attendant. If the IFDN is a NARS/BARS access code, and any one route is Attendant Busied, calls transfer to the attendant.

DNIS

DNIS information is passed to the Interflow destination.

Operating parameters

Busy trunk conditions apply only to internal trunks on the same switch as the source ACD DN.

The DNs for DISA calls are not supported by a Call Interflow treatment or its enhancements.

If the programmed IFDN is not an ACD DN, then calls that Interflow cannot transfer back to the source queue while it is in interflow state.

The DN for a Release Link Directory Number (RLDN) is not supported by a Call Interflow treatment or its enhancements.

Note: With ACD DISC SUP PK package, CO loop start trunks terminating to an ACD DN are allowed to NCFW or interflow. However, avoid the following situations:

a. An ACD DN Night Call Forwards to a local set that Call Forward No Answers to Meridian Mail.

b. Night RAN is defined while NCFW = none.

c. Using an external route with SUPN = NO for either NCFW or interflow.

In cases a and b, trunks become hung-up and must be manually disabled in Overlay 32. In case c, if the caller abandons the call, the destination set rings until the abandoned call is answered and the set goes on-hook

Customer Controlled Routing (CCR) (Advanced)

In addition to EAR basic functionality, Customer Controlled Routing (CCR) allows the customer to customize the treatment and routing of incoming calls through a user-friendly interface. Calls arriving at a CDN in the controlled mode have their handling determined by a customer-defined script executed by the Customer Controlled Routing Module (CCRM) application, rather than being handled by the X11 software. Refer to the NTPs listed at the beginning of this document for further information.

Specifying the controlled option for a CDN allows the CCRM application to control the call treatment of calls arriving at the CDN. This controlled option is called the “controlled mode.”

The CCR application module allows customers to write call scripts that specify call routing to one or more destinations within the Meridian 1 system. When a call arrives at a CDN in controlled mode, the X11 software informs the CCRM software of this event using communications over an Application Module Link (AML) dedicated to the CCR application.

CCR associates the call with a customer-defined call treatment script, based on the CDN where the call arrived. The X11 software receives instructions to direct the handling of the call based on the script commands. Customers decide how a call is handled based on a variety of parameters, such as CLID, DNIS, time of day, number of calls queued at the destination ACD DN, or number of idle agents. In addition, CCR allows a call to queue simultaneously at up to four ACD DNs. You can also remove calls in queue to ACD DNs with the Remove From request.

CCR requires additional hardware and software packages. CCR requires an additional application processing module, the Customer Controlled Routing Module (CCRM), in addition to CCR (package 215), EAR (package 214), and Command and Status Link (package 77).

CCR features include all the functionality of EAR features plus the additional features covered in this section. Refer to “Enhanced ACD Routing (Advanced)” on page 151 for the EAR advanced features.

CCR features allow calls arriving through CDNs in the controlled mode to be queued in four ACD DNs simultaneously. CCR calls in controlled mode are considered virtual calls and are not counted as part of the number of calls in queue at an ACD DN for features such as Overflow by Count and Interflow. When equipped with CCR, a CDN possesses the following attributes:

— mode of operation (controlled or default)

— association with the Application Module Link (AML) handling CCR messages for this DN (VSID)

— association with TTYs assigned for status display

— CWTH, BYTH, and OVTH thresholds

The mode of operation of an individual CDN can be switched between controlled mode and default mode by changing the mode of operation attribute of the CDN. It can be changed by the following:

— Load 23

— Load management

As calls arrive at a CDN, the operation mode of the CDN is checked to determine the treatment required for the call. If controlled mode is selected, the X11 software notifies the CCRM application. If the CCRM software accepts the call, it is controlled by the CCRM application. If the conditions for controlled treatment are not met, the call is given the default treatment.

The conditions for meeting the controlled treatment requirements are as follows:

— The CDN must be set to controlled mode.

— The AML must be defined and operational for communication with the CCRM application.

— The CCRM application must take control of the call within 4 to 6 seconds for most types of calls and 1.9 seconds for Japan DID trunk calls.

CCR controlled mode operation

In controlled mode operation, an arriving call is queued to the CDN until one of the following actions occur:

— The call is answered.

— The call is abandoned (caller hangs up).

— The call is given busy or disconnect treatment from CCR.

— A Route request is performed.

While it remains in the CDN queue, the only call processing applied to the call is that issued by the CCRM application through command messages.

CCR script commands and operation

Queue request

The Queue To request command allows a call to be virtually queued to an ACD DN while maintaining its position at other ACD DNs that received a Queue To request. A call can be queued to up to four ACD DNs simultaneously.

A priority is specified in the queue request, which determines the call's placement in the ACD DN queue. If a tone has not yet been given to the call, the call receives ringback until changed by the CCRM application.

All subsequent queue requests place the call in the specified ACD queues simultaneously, without changing the placement of the call queues where it already resides. If a second queue request is attempted for a queue that the call is already in, the call is repositioned in the ACD queue with respect to the new priority.

Call priority

Controlled mode CCR provides four levels (1–4) of call priority. These are the call priorities and their corresponding ACD priorities:

— priority 1: high-priority timed overflow call queue (highest)

— priority 2: non-priority timed overflow call queue

— priority 3: high-priority call queue

— priority 4: non-priority call queue (lowest)

Queuing by priority

When the CCRM application issues a Queue Request, the call for which the queue request was made is placed at the end of the ACD priority call queue, corresponding to the requested priority.

By placing a call at the end of its priority, an *ordering by time-in-priority* is maintained. Therefore, calls that have been waiting longer in a specific priority are never positioned behind calls just entering the priority.

Changing call priority

When the X11 software receives a Queue Request for a call already queued at the specified ACD DN, and the priority in the request is different from the call's current priority assignment, the call is repositioned in the ACD queue at the end of its new priority.

If the priority is the same, the request is ignored and the call retains its current position and priority in the specified ACD queue. Changing a CCR call's priority in one ACD queue does not affect its priority (which can be different) in other ACD queues where it can also be placed. Once a call's priority has been changed, its time-in-priority is zero in the ACD queue for which its priority was changed. The call's time-in-priority in other ACD queues in which the call is waiting is not affected.

Order of presentation of queued calls

Three different queue priority algorithms can be defined for an ACD queue to determine which call in that queue is selected for presentation to an available agent. The CCR calls are *threaded* into the existing queues based on the priority the CCR module assigns to it. Therefore, the existing call presentation algorithms apply to CCR calls as described in the following options.

> ***Note:*** The following describes how the existing call presentation algorithms apply to ACD DNs, not CDNs.

Oldest call in network

This option picks the oldest, highest priority call in the network. The first call in the TOF, Call Request, and nodal source TOF queues must be compared. The call with the highest priority that has waited the longest is presented to the available agent. In Overlay 23, OCN=Yes and HPQ=NO.

Own TOF queue first

This option picks the oldest, highest priority call within the ACD queue's own TOF queue. In Overlay 23, OCN=NO and HPQ=NO.

Own TOF and high-priority queues first

This option picks calls from the queue's own TOF and high-priority queues before any others. In Overlay 23, OCN=NO and HPQ=Yes.

Determining queue length

Some ACD functions such as Overflow by Count and Interflow operate according to the number of calls in the ACD queues. Since the CCR calls are virtual calls, *they are not counted* when determining the queue length for an ACD DN in the following:

— Overflow Threshold (OVTH), used by Overflow by Count and Interflow

— Busy Threshold (BYTH), used by Overflow by Count

— Call waiting field on the ACD/Meridian MAX real-time displays

— ACD-C Ongoing Status Displays

— Call Waiting lamp updates if the new call waiting option (NCWL) is disabled

— Number of calls currently waiting in queue field (aaa) of the DWC display

CCR calls are counted for the following:

— Apart of the total number of queued calls for CCR call scripts

— The waiting time of the oldest call in the queue field (ccc) of the DWC display

— Call Waiting lamp updates if the new call waiting option (NCWL) is enabled

— The virtual calls that can be answered field (dddd) of the DWC display

— The age of oldest call intrinsic within CCR call scripts

— The number of calls to be answered when an ACD DN enters the transition mode of Night Service

— In the new ACD-D option, messages that include the number of CCR calls for real-time displays

Remove From Request

The Remove From Request allows the CCRM application to remove a call from a queue where it was previously queued. The removal does not affect the placement of the call in other ACD queues.

A call cannot be removed from a CDN queue. A call can only be removed from ACD DNs where a Queue Request was previously issued.

Give RAN Request

With a Give RAN Request, the CCRM application can request that a certain call be given RAN treatment from the RAN route indicated within the Give RAN request. When a RAN Request is received, the call is given the RAN of a specified route (if trunks are available), or placed in the RAN queue corresponding to that route.

The RAN route parameters defined on the Meridian 1 determine the type of RAN provided. If different RANs are desired for a call, they must be defined in different routes.

The X11 software cannot connect the call to a route that is not marked for RAN by service change. If RAN is given to a call, the next call script command is not executed until the RAN message is finished.

If a call is presented to an agent while receiving RAN, RAN is interrupted, ringback is given to the caller, and CCRM is notified of the RAN completion. If the agent returns the call to the queue at the time of presentation by pressing the Not Ready or Make Set Busy keys, the caller is given ringback. Since the call was not answered, the CCRM application continues to control the call and issue call control commands for the call.

An attendant is not allowed to receive RAN treatment.

If the first command of a call script is Give-RAN, ringback is provided with connection to RAN. Because of this, the RAN route is no longer required to have answer supervision enabled for an ISDN call to first receive RAN.

Music Request

The Music Request provides music to the caller. The route specified must be marked as a music route for the command to succeed. Music is persistent; it is given between other call treatments once given to the call. For example, a controlled call receiving Music because of a previous request is given RAN by a RAN request. After completing the RAN, music resumes.

An attendant is not allowed to receive music treatment.

Tone Request

This request provides the caller with a tone option. Currently, silence and ringback are the only supported tones. The tone specified in this command is provided to the caller until it is interrupted (replaced by a RAN or Music request when the call is presented, forced, or routed elsewhere, or the tone is changed by another tone request).

The treatment (such as music) interrupting the tone determines whether a tone resumes after completing an interrupting treatment.

Tone transition before and after call event

A ringback tone provided to a call because of a call presentation does not change the previous tone flag. For example, a controlled CCR call receives music before it is connected to an agent. This call receives a ringback tone before the agent answers it. However, if the agent presses the NRDY key to return the call to the queue, the call still receives the ringback tone. If the CCRM application now issues the Give RAN command to this call, after getting RAN, the call receives music instead of the ringback tone.

Table 5 shows how different call actions affect the tone given to the call before and after the action.

Table 5
Tone transitions (Part 1 of 2)

Action	Tone before action	Tone after action
Queue to	No tone	Ringback
Queue to	Silence	Silence
Queue to	Ringback	Ringback
Queue to	Music	Music
Dequeue	No tone	Ringback
Dequeue	Silence	Silence
Dequeue	Ringback	Ringback
Dequeue	Music	Music
Give RAN	No tone	Silence
Give RAN	Silence	Silence
Give RAN	Ringback	Silence
Give RAN	Music	Music
Give tone (silence)	No tone	Silence
Give tone (silence)	Ringback	Silence
Give tone (silence)	Music	Silence
Give tone (ringback)	No tone	Ringback

Table 5
Tone transitions (Part 2 of 2)

Action	Tone before action	Tone after action
Give tone (ringback)	Silence	Ringback
Give tone (ringback)	Music	Ringback
Give music	No tone	Music
Give music	Silence	Music
Give music	Ringback	Music
Force disconnect	No tone	(call is gone)
Force busy	Whatever tone	busy (call is gone)
Route to	Whatever tone	(call is gone)
Note 1: If the Give Tone, Give Silence, or Give Ringback command is issued during the action, then the tone given to the call after the action is changed to the tone requested by the Give command.		
Note 2: The ringback tone is given to the call because a call presentation does not change the previous tone flag.		

Force Request

Force Request changes the call state to the one indicated by the request. The supported options are disconnect and busy. This command removes the call from all queues where it resides and gives it the requested treatment. For the disconnect command, trunk calls are answered (if they are not already answered) and then disconnected.

For the busy command, unanswered CO/FX/WATS trunk calls receive default treatment. Unanswered ISDN CO/FX/WATS trunks are allowed to receive busy tone. Other trunk types can be given busy tone if previously unanswered (no toll).

When Forced Request is used, it must be the first command given in a script. If it is not, a caller hears ringing before getting a busy tone or being disconnected.

Route Request

Route Request diverts the call to a specific DN as if the call had been dialed directly. The call is removed from the CDN and any other ACD queues, then routed to the specified target DN.

The following DN types are supported:

— Set DNs: any number that terminates on a user telephone

— Trunk DNs: any number that accesses a trunk (such as trunk access codes)

— Attendant DNs: any number that terminates to an attendant console

— ESN DNs: any number (such as CDP, UDP numbers) that accesses the Enhanced Switching Network

— ACD DNs and CDNs: all CDNs and ACD DNs in the customer's system. However, the Route To DN cannot be the CDN that originated the call. If it is, an overflow tone is returned.

Call abandoned

When a call is abandoned while in the controlled mode of operation, the call is removed from all queues in which it resides, and an abandoned message is sent to the CCRM application.

Call presentation

When a controlled call is presented to an ACD agent, the call is removed from all other ACD queues in which it has been placed. If the caller was receiving RAN or a tone, the caller now hears ringback.

If the agent returns the call to the queue, it is returned to all ACD queues in which it was placed before the presentation. A call can be returned to queue only if there are no other idle agents for that queue.

When a controlled CCR call is returned to the queue, it is placed at the head of priority 1 (timed overflow high-call queue) of the ACD queue. This assures that the next available agent receives the call. If this call was also placed in other ACD queues by *queue* commands from the CCRM application, it is replaced in each of its other ACD queues at the top of the priority at which the call was previously queued. With X11 Release 18 and later, the call is replaced in the queue in the same position it held before.

The caller hears ringback when the call is placed back in its queue.

Call answered

When a call is answered during controlled mode, the X11 software notifies the CCRM application. The CCRM no longer controls the call.

CCR call handling error detection

Synchronization errors

Four synchronization errors that affect the CDN can occur on a per-call basis. These are the four errors:

— No script is available. Call receives default treatment. Ceiling value is checked. CDN is changed in protected memory to default mode, and a CCR003 message is output on the maintenance TTY.

— An undefined CDN call. Call receives default treatment. Ceiling value is checked. CDN is changed in protected memory to default mode and a CCR003 message is output on the maintenance TTY.

— An invalid call ID is received. Call receives default treatment. Ceiling value is checked.

— CCR cannot control the call. Call receives default treatment. Ceiling value is checked.

Switching from the controlled to the default mode of operation

The X11 software reverts the calls controlled by the CCRM software to default mode under abnormal conditions such as the link going down. However, if the calls are initially in the default mode, abnormal conditions do not occur.

During abnormal operation, calls already placed in one or more ACD queues remain in these queues until answered or abandoned. A call queued to one or more ACD DNs does not go to the default ACD DN, but stays in its queue and receives no further treatment (based on either the CDN parameters or the destination ACD DN parameters). When a CDN reverts to default, calls that are not queued to ACD DNs are sent to the default ACD DN (regardless of the ceiling level for the CDN) and receive EAR treatment.

When a call in the controlled mode must be redirected back to Meridian 1 call processing, the following rules apply:

— If a call is queued to an ACD DN because of the previous execution of a Queue Request, the call remains in the queues where it resides.

— If the call is not queued to any ACD DNs, the call is given the default treatment of the CDN in which it resides. Thus, it is queued at the default ACD DN of the CDN and thereafter governed by the rules regarding the default operation.

— The call ceiling value is not checked when diverting these calls to the default ACD DN. However, they are included in the call ceiling count when a new call is diverted to default mode.

The overflow threshold of the default ACD DN applies to the diverted CCR calls coming into the queue.

The call reverts to default under these circumstances:

— Disabling of the AML in Overlay 48 or Overlay 96. X11 waits to receive a Start Up message from the CCRM application before returning to controlled mode.

— Polling message timeout. X11 waits to receive a Start Up message from the CCRM application before returning to controlled mode.

— Ten successive timeouts on CCR messages. A CCR001 message prints on the maintenance TTY. X11 waits to receive a Restart or Start Up message from the CCRM application before returning to controlled mode. When the Restart message is received, a CCR002 prints out on the maintenance TTY.

— Start Up received from the CCRM application. X11 waits for all calls in all CDN queues to revert to default mode as outlined above.

— Shut Down received from the CCRM application. X11 waits for the CCRM application to send a Start Up message before returning to controlled mode.

— CCR Died received from the CCRM application. X11 waits for the CCRM application to send a start message before returning to controlled mode.

— CCR003 means a CDN was forced into default because there was no association in the CCRM.

Trunk unit fault

If a trunk providing RAN to a CCR-controlled call goes down, the CCRM application receives a treatment-complete message so that the call can continue its treatment as prescribed by the call script.

Operating parameters

Prompts and responses

The following prompts are added to Load 23 equipped with the CCR package:

— CNTL (Yes, No): is the CDN in controlled mode?

— VSID: VAS ID for Application Module Link for CCR.

— HSID: VAS ID for Application Module Link for host.

— CWTH: Call waiting LED threshold.

— BYTH: Busy queue threshold.

— OVTH: Overflow queue threshold.

— STIO: TTYs assigned for status displays.

— TSFT: Telephone Service Factor Threshold.

CNTL prompt

This prompt is given only if the system has the CCR package installed. The CNTL prompt determines whether the CDN is in controlled mode. When set to YES, the CDN operates in controlled operation. When set to NO, the CDN is restricted to using the default mode.

CCR capacity impacts

The following list describes the CCR impact on capacity:

— Real time—if 100 or more CDNs are defined, the ongoing status display could be affected. Therefore, a single script should be defined and used whenever possible for many DNIS numbers. For example, rather than defining a CDN for each DNIS number, define a single CDN and call script using IF statements within the script to provide different treatments based on DNIS numbers.

— Memory—each CDN takes up as much memory as an ACD DN.

— 240 ACD DNs/CDNs can be defined per customer.

— Call registers needed for CCR should be added to existing NCR in Load 17.

— Load 17 – CSQI and CSQO should be increased by 25%.

— Load 17 – CSQI + CSQO = 255 each.

— Number of ACD trunks to CDNs minus the number of logged-in agents equals the number of unanswered calls times 7.

Feature interactions

ACD Ring Again

This feature is not allowed to operate on CDN queues. However, once the call is queued at an ACD DN by default treatment or a route request, this feature is available if configured.

Agent Display

When a CCR call (either controlled or default) is either presented to or answered by the agent, depending on the agent's display class of service, the agent's display shows the following:

— Originator Information

— DNIS number (where applicable)

— Original Called Information

The Original Called Information category covers the CDN. The display of the CDN conforms to current X11 software operation. Therefore, if a call initially dials a CDN, the original called number (the CDN) is displayed when that call is presented to or answered by an agent, depending on the agent's display class of service.

The name of the CDN is displayed instead of the originator's or DNIS name if the following conditions are met:

— a name is defined for the CDN

— the agent's telephone has the Calling Party Name Display Allowed class of service

— the DNAM option is not enabled in the incoming route block

The redirecting number is the number of the last redirection. It changes as redirections occur within the network.

Under the best circumstances, the original called number and name are displayed on the terminating telephone. However, the redirecting number and name are used if a non-ISDN trunk or a switch that does not support the original called number message is encountered. A CDN can be a redirecting number and name.

Agent/Supervisor keys

If a CCR call is presented to an agent and the agent activates an Agent/Supervisor key, call handling occurs as described in “Not Ready key (Basic)” on page 35.

Alternate Answering Service

A CDN is not allowed to be an AAA DN.

APL Messages

If an AUX Processor is equipped, APL messages are sent across the APL link when an EAR or CCR call is given to an ACD agent through the default treatment or the Queue To command requested by CCR.

Attendant Extension

Attendant extension to a CDN is supported when the CDN is in controlled or default mode.

An attendant initiating a call extension to a CDN in default is diverted to the default ACD DN. If the attendant completes the extension when the call is in the ACD queue, the call maintains its place in the queue.

An attendant initiating a call extension to a CDN in controlled mode has an incoming message sent for it to the CCRM application module with the attendant as the originator. When the attendant completes the call extension by activating the release key, the call must be removed from all the ACD queues it is currently queued to and a call abandoned message must be sent to the CCRM application module. A new incoming message is sent for the extended call with the new originator information. The extension cannot be completed until the destination lamp on the attendant console is lit/wink.

Before the extension is complete, if the CCRM application sends Meridian 1 a treatment request for RAN, the attendant is not allowed to receive RAN. An attendant is not allowed to receive Music treatment in both ACD and CCR operations. The CCRM application determines what treatments are given to calls.

If the attendant extension is completed while the call is ringing on an agent's telephone, a call abandoned message is not sent to the CCRM application because the call should be answered momentarily. If the agent activates NRDY instead of answering the call, the call is handled as described in "Not Ready key (Basic)" on page 35.

If the attendant extension is completed after the call is answered, no interaction occurs because once the call is answered the CCRM application no longer controls the call.

Both ACD-C and ACD-D reports peg attendant extended calls as one call to the CDN.

Attendant Overflow Position

A CDN is not allowed to be an attendant overflow DN.

Attendant Recall

Once a call is extended by the attendant to a CDN, it cannot recall back to the attendant console.

Automatic Number Identification (In-band ANI)

ANI information, if available, is provided to the CCRM application to use in call scripts.

Auto-terminate trunks

Auto-terminate trunks can terminate to a CDN (auto-termination number). If the trunk is designed as a DNIS trunk, the DNIS digits are delivered to the CDN and are carried with the call to ACD queues where it ends up by either default or controlled mode.

Barge-In

The attendant is prevented from barging into the originating trunk of a controlled or default CCR call.

Busy Verify

The attendant is prevented from busy verifying the originating telephone of a controlled or default CCR call.

Call Forward

If the CCRM application issues a Route To command to a telephone that has *call forwarded all calls*, the call is forwarded to the appropriate destination. If the telephone has First Level Call Forward No Answer enabled, the CFNA DN for the Route To DN is obtained when the CFNA timeout occurs, instead of the CFNA DN for the dialed DN (the CDN in this case). The CCR call is forwarded to the next telephone.

Calling Line ID (CLID)

CLID information is provided for use in call scripts. It is also available for telephone displays and other applications to which the CDN can pass the call by route requests and default DNs.

Call Party Name Display (CPND)

The CDN can be assigned a name with the CPND feature. The CCRM application can also assign a name to the same DN by the variables feature. These two names are not coordinated and can be different. The name is also available for telephone displays and for other applications to which the CDN can pass the call by route requests and default DNs.

Only M2317, M2008, M2x16, and M2616 telephones can have CPND class of service. Name information can be displayed only on these types of telephones.

Call Park Recall

If a controlled or default CCR call is answered by an agent who subsequently parks it, the call recalls back to the ACD DN of the agent and not the CDN.

Call Transfer

The CCRM application must be informed of the call transfer because the originating information (such as CLID and DNIS number of the transferring party) could differ from that of the transferred party.

Scripts created on the CCRM application can have conditional branching based on the originating information. Therefore, when a transfer is completed while the call is in the CDN queue, it is taken out of all the ACD queues to which it was queued.

If the agent activates NRDY instead of answering the call, the call is placed to the front of the queue so it becomes the next in line to be answered.

If the transfer is completed after the call is answered, no interaction occurs because once the call is answered, the CCRM application no longer handles the call.

The transfer of a call to a controlled CDN cannot be completed until a valid tone or treatment request for the transferring party is received from the CCRM application, and successfully performed by the Meridian 1 (the tone can be ringback or silence, and the treatment can be Queue To, Route To, or give music or RAN). Both ACD-C and ACD-MAX (X11 Release 4) reports peg transferred calls as one call to the CDN.

Additional Call Transfers are possible involving network call redirection. If Telephone A at Node A calls Telephone B at Node B, and Telephone B activates the transfer key initiating a transfer to a CDN at Node C, when Telephone B completes the transfer, Telephone A's display is updated according to the mode of the CDN at Node C. If the CDN is in default mode, Telephone A gets the default ACD DN on the display if Telephone A is placed in the default ACD DN queue. Otherwise the display is updated with the number to which the default ACD DN diverts the call.

If the CDN is in controlled mode, Telephone A gets the CDN on the display. The CCRM application is unaware of the transfer for this event since the Meridian 1 does not send the messages when the transfer is complete at Node B.

Call Waiting Indication (AWC)

If the New Call Waiting (NCWL) option is disabled, the number of calls queued to the ACD DN shown by the ACD calls waiting lamp (AWC) does not include controlled CCR calls.

If the New Call Waiting option is enabled, the number of calls queued to the ACD DN shown by the ACD calls waiting lamp (AWC) includes CCR calls.

Once a default CCR call has been placed in the default ACD DN, it is considered a regular ACD call (except that the call gets its RAN and music treatment from its source CDN). Default CCR calls are reflected in the AWC display as regular (nonvirtual) CCR calls. Refer to the Night Mode section for a description of AWC when an ACD queue enters Transition or Night Mode.

Centralized Attendant Service

An attendant at the main site can extend a call to a CDN at a remote location. The extension cannot be completed until the destination lamp is lit/wink.

CO trunks

When a call enters the system by a CO trunk (including FEX and WATS), the Central Office provides ringback. This state is maintained until default or controlled treatment actions change it. Calls arriving on other trunk types receive silence until treatment for the call is decided (default treatment calls receive ringback or other tones as for calls directly dialed into the ACD DN, while treatments given to controlled mode calls are controlled by the CCRM application). Answer supervision must be returned on a CO trunk before the following treatments can be given:

— music

— silence

— RAN

— Force Disconnect

— Force Busy

Customer Night Number

A CDN cannot be defined as a customer night number.

Display Waiting Calls (DWC) key

The light state of the Display Waiting Calls (DWC) key corresponds to the light state of the Calls Waiting (AWC) key. When the Display Waiting Calls (DWC) key is used at the supervisor's or agent's telephone, the display on the telephone is in the following format:

aaa—bbb—ccc—dddd

Legend:

a a a	=	number of calls in queue (TOF+high and nonpriority)
b b b	=	number of agent positions occupied
c c c	=	waiting time for the oldest call in queue
d d d d	=	virtual calls, which include source TOF, call request queue, and CCR-controlled calls

Distinctive ringing

Ringing is provided to calls originating from a route marked for distinctive ringing that has called or is diverted to a CDN in either controlled or default mode.

DN Expansion

Five- to seven-digit directory numbers are supported for CDNs.

Dialed Number Identification Service (DNIS)

This feature allows the software to store from one to thirty-one dialed digits of a call arriving on DID or Tie trunks from the external network. This allows customers to identify the purpose of the call when a trunk terminates more than one number on the switch.

The ACD DN to which the call is directed is obtained from the auto-terminate field in the protected trunk block, or it can be obtained through IDC translation tables.

Calls arriving at an ACD DN by a CDN have the same DNIS information as if they had entering the ACD queue directly.

Enable Interflow (ENI) key

A CDN cannot have an ENI key defined for it.

Enhanced Interflow

Controlled CCR calls are not allowed to interflow. They are not included in the Overflow Threshold (OVTH) count.

Feature Group D (FGD)

This feature provides ANI information (both calling and called party numbers) by FGD trunks. The calling party number (CLID) and the called party number (DNIS) are provided to the CCRM application for use in call scripts. Feature Group D will supports seven digits of DNIS.

Feature Invocation Messages

This feature allows applications to invoke telephone features on behalf of individual telephones. Because this feature creates new ISDN/AP messages, changes to TFS008, Traffic Measurement, must be made to monitor these new messages. For more information, refer to *Traffic Measurement: Formats and Output* (553-2001-450).

Hunting

Only 500 and CDS, attendant, LDNs, or ACD DNs defined as message centers can be defined as an FDN or a Hunt DN. A CDN cannot be defined as an FDN or a Hunt DN. If a Route To command to a telephone is issued from the CCRM application, the call hunts based on the parameters of that telephone.

Incoming Digit Conversion (IDC)

CDNs can be entered as a valid termination in the IDC tables. A call can be rerouted to a CDN based on entries in the IDC tables.

Incremental Software Management (ISM)

CDNs are counted as ACD DNs. For example, the limit specified by the ISM feature for ACD DNs applies to the sum of CDNs and real and virtual ACD DNs.

Individual DN (IDN) keys

An IDN key can be any DN key, such as SCR, MCR, SCN, and PLR. If an IDN key is activated while a CCR call is presented to the agent, call handling occurs as described in “Not Ready key (Basic)” on page 35.

ISDN/AP Enhancements

This feature enhances existing messages and adds new ISDN/AP messages as part of the ISDN/AP enhancement.

ISDN Signaling trunks (ISL)

If an incoming call to a CDN in controlled mode is from an ISL trunk in which the D-channel is active, then the required ISDN signaling messages are sent to the far end when the first treatment request is received from the CCRM application. However, if the D-channel goes down, ISDN messages are not sent when the first treatment request is received from the CCRM application.

Last Number Redial

In the EAR feature, the stored number that can be redialed is the default ACD DN to which the call is routed by the default treatment instead of the normal dialed DN (which is the CDN in this case).

Make Set Busy

If a CCR call is presented to an agent and the agent activates the MSB queue, call handling occurs as it is described in “Not Ready key (Basic)” on page 35.

Meridian Mail

CCR controlled calls can be placed in a Meridian Mail queue by a Queue To command. The call is removed from all other queues where it resides when it is presented to a Meridian Mail port.

For a route request, CCR relinquishes control of the call when the route request is issued and before it is answered.

Multi-Tenant

For controlled mode, tenant numbers are not checked when the CCRM application module requests Meridian 1 to queue a call to a particular ACD DN. If the originator of a controlled CCR call is queued to an ACD DN and has a tenant number that has denied access to that ACD DN’s agent’s tenant, the agent is unable to answer the call after connecting the CCR call to an agent.

One guideline of the Multi-Tenant feature is that every ACD agent of an ACD DN have the same tenant number. It is recommended that the tenant to which the caller belongs have access to the tenants in which ACD DN queues reside. The ACD DN queues are the queues to which the call can be queued by the Queue To command or default treatment. The system checks the access by looking at the first agent in the agent list. If this agent’s tenant number is denied access to the originator of the call, the call receives intercept treatment and is denied access to this ACD DN.

For default mode, when a CCR call first enters the default ACD queue, it receives intercept treatment if the tenant number of the first agent of the default ACD DN is denied access to the originator of the call.

No Multi-Tenant checking occurs when a call enters a CDN queue because a CDN does not have agents against which it can check tenant numbers.

Network ACD (NACD)

NACD target tables are not provided for CDNs, nor are CDNs allowed as targets for NACD Routing Tables of other ACD DNs. If a remote CDN is specified as a target in an ACD DN routing table, the remote node refuses the request and an error message is issued indicating an invalid DN. Controlled CCR calls can be sent to queue with NACD tables using the Route To command.

CCR calls in default mode are allowed to access the NACD routing tables of the destination ACD queue where they reside, while controlled mode calls are not subject to NACD rerouting.

The name of the CDN is sent to the target node if the CDN is the original dialed number. It appears as the original called number.

Network Call Forward No Answer

This allows a person to define a trunk access code or NARS/BARS for an FDN. When the call rings at the remote FDN, the originator's display is updated with the redirection number (and name if defined).

CDNs can be entered as remote FDNs since there is no cross-checking with the terminating node to verify the number entered.

If a CDN in default mode is entered as a remote FDN, the originating telephone is updated with the default ACD DN if the call is put into the default ACD DN queue, or with the number where the default ACD DN diverts the call if the call does not remain in the default ACD DN queue.

If a CDN in controlled mode is entered as a remote FDN, the CDN number is updated on the originator's display as soon as ringback is provided to the caller. (Ringback is provided to the caller when the CCRM application sends as a first command a Queue Request, a RAN request, or a Route To request. Ringback is also provided when a Give Ringback Tone request is received. Ringback is given regardless of whether the Give Ringback Tone was the first command received for the call.)

Network Call Redirection

This allows a person to define a trunk access code or NARS/BARS for a Hunt DN. When the call is ringing at the remote Hunt DN, the originator's display is updated with the redirection number (and name if defined).

Since the terminating node does not cross-check to verify the number entered, CDNs can be entered as remote Hunt DNs.

If a CDN in default mode is entered as a remote Hunt DN, the originating telephone is updated with the default ACD DN if the call is put into the default ACD DN queue, or the number of wherever the default ACD DN diverts the call if the call does not remain in the default ACD DN queue.

If a CDN in controlled mode is entered as a remote Hunt DN, the CDN number is updated on the originator's display as soon as ringback is provided to the caller. (Ringback is provided to the caller when the CCRM application sends as a first command a Queue Request, a RAN request, or a Route To request. Ringback is also provided when a Give Ringback Tone request is received. Ringback is given regardless of whether the Give Ringback Tone was the first command received for the call.)

This feature also provides terminating number display information for transfer and call pick-up redirections. For example, if Telephone A at Node A calls Telephone B at Node B, and Telephone B transfers Telephone A to a CDN at Node C, after completing the transfer, Telephone A's display shows the following:

— The CDN's default ACD DN, if the call is put into the default ACD DN queue

— The number where the default ACD DN diverts the call, if the call does not remain in the default ACD DN queue

— The CDN (if the CDN is controlled)

Network CPND

Network CPND includes a new prompt, RCAP, in the configuration per D-channel to indicate whether to send the name

— When the call is answered (ND1)

— When the call is presented (ND2)

ND1

If the ND1 option is enabled, the originator's telephone is updated with the name at the time that the call is connected. Therefore, if a CDN in default mode is dialed, the originator's telephone is updated with the name of the ACD DN of the agent who answered the call. However, if RAN is given before the call is answered, the originator's display is updated with the name of the ACD DN whose queue the call is in.

If a CDN in controlled mode is dialed, the originator's telephone is updated with the name of the ACD DN of the agent answering the call. However, if RAN or music is given, the originator's display is updated with the name of the CDN when the RAN or music is connected.

ND2

If the ND2 option is enabled, the originator's telephone is updated with the name when the call is presented. Therefore, if a CDN in default mode is dialed, the originator's display shows the name of the default ACD DN or the name of the ACD DN to which the default ACD DN diverted the call using NCFW, overflow by count, or interflow.

If a CDN in controlled mode is dialed, the name of the CDN appears when the call is given ringback. Ringback is provided to the caller when the CCRM application sends as a first command a Queue Request, a RAN request, or a Route To request. Ringback is also provided when a Give Ringback Tone request is received. Ringback is given regardless of whether the Give Ringback Tone was the first command received for the call.

If a Give RAN or Give Music command is issued before a Give Ringback or a Queue To command, the name of the CDN appears on the originator's telephone at the time the call is connected to the RAN or music. When the call is answered, the name of the ACD DN of the agent answering the call is *not* updated on the originator's telephone.

Network Call Trace

A call within the ISDN network that is calling a CDN can have network call trace performed on it. The Network Call Trace (NCT) information collected for a default or controlled CCR call is discussed in different scenarios:

— Telephone A dials a CDN in controlled mode. The NCT output shows ORIG node and TBD node information with STAT of DIAL. The rest of the output depends on what treatments the call receives.

— Telephone A dials a CDN in default mode and the call is presented to an ACD agent immediately. The NCT output shows ORIG node and TERM node information with STAT of RING.

— Telephone A dials a CDN in default mode and the call is waiting in the default ACD DN. The NCT output shows ORIG node and TBD node information with STAT of ACD.

— Telephone A dials a CDN in controlled mode, CCR response timeout. The call is then routed to the default ACD DN and presented to an ACD agent immediately. The NCT output shows ORIG node and TBD node information with STAT of DIAL.

— Telephone A dials a CDN in controlled mode, CCR response timeout. The call is then sent to the default ACD DN and queued. The NCT output shows ORIG node and TBD node information with STAT of DIAL.

Network Call Transfer

Network Call Transfer is supported for a CDN. If a caller on Switch A calls a telephone at Switch B and the telephone at Switch B initiates a transfer to a CDN at Switch A, when the transfer is completed the trunks between Switch A and Switch B are shut down.

Night Call Forward

Calls controlled by the CCRM application are not allowed to Night Call Forward.

Night Key Digit Manipulation

This feature allows an IDC route to have two routes defined—one for day and one for night. It also allows a new key (DRC) to toggle between the two routes on a per-route basis.

Since a CDN can be defined as a termination in an IDC table, then a call from an IDC trunk can terminate to a CDN through both the day and night tables.

Night Service (NSVC) key

CCR calls in controlled mode cannot be placed by the Queue Request in ACD queues that are in Night Service or Transition Mode. In addition, calls already residing in an ACD queue when the queue goes into Night Service (Night Mode) are removed from that queue. The CCRM application is not notified when calls are removed from a queue because of the ACD queue entering Night Service.

When the default ACD DN of a CDN is in Night Service, all CCR calls entering the ACD queue by default treatment receive the Night Service treatment of the default ACD DN (Night RAN and Night Call Forward).

CDNs are valid destination DNs for the Night Call Forward DN of an ACD DN. A Night Service (NSVC) key cannot be defined for a CDN.

CCR calls do not queue to ACD DNs in Night Service.

Transition Mode—NSVC key

If a queue goes into transition mode by the Night Service key, calls already in the queue remain, but no new calls are allowed to enter the queue. An ACD queue remains in transition mode until all of the calls that were in queue when the transition mode was entered, including CCR calls that were placed in the queue by the Queue To command from the CCRM application, have been depleted. When no more calls remain to be answered, the queue enters Night Mode.

If a queue that was in transition mode enters Night Mode before all calls that were eligible to be answered were answered (for example, the supervisor manually takes the queue from transition mode to Night Mode by the Night Service key), call processing proceeds as described in Night Service.

Calls Waiting Indication (AWC) key

If the New Call Waiting (NCWL) option is disabled for a queue, the number of CCR calls in that queue is not reflected by the AWC key lamps (the agents have no way of knowing if there are CCR calls in queue).

When a queue enters transition mode, agents do not have a true indication of the number of calls remaining to be answered since CCR calls are not included in the count when the NCWL option is not enabled. Therefore, the New Call Waiting option should be enabled for an ACD DN that receives controlled CCR calls.

If the New Call Waiting option is enabled for a queue, the number of calls that remain to be answered are reflected by the AWC key lamp when the queue enters transition mode. CCR calls are included when the New Call Waiting function is determining the number of calls remaining in queue.

Display Waiting Calls (DWC) key

When the ACD DN enters transition mode, the DWC display shows the following information:

— aaa = number of calls waiting in queue

— bbb = number of agent positions available

— ccc = waiting time for the oldest call in the queue

— dddd = the sum of CCR calls

Night Mode by the NSVC key

When an ACD queue enters Night Mode by the Night Service key, the CCR calls are treated the same as described in Night Service.

Calls Waiting Indication (AWC) key

When the ACD queue enters Night Mode, the AWC key lamp goes dark, indicating that no calls are eligible to be answered since the queue is in Night Service.

Display Waiting Calls (DWC) key

When the ACD queue enters Night Mode, all of the fields in the display are zero since calls are not eligible to be answered and the agents are unavailable; the queue is in Night Service.

Night RAN

A default CCR call receives the night RAN as it is defined for the ACD DN in which it is currently queued.

Night Call Forward

Controlled calls are not allowed to Night Call Forward. Default CCR calls are allowed to Night Call Forward.

Not Ready (NRDY) key

If a CCR call in default mode is presented to an agent and the agent activates the NRDY key, call handling occurs according to current Meridian 1 software operation.

If a CCR call in controlled mode is presented to an agent and the agent activates the NRDY key, the software presents the call to another idle agent.

If there are no idle agents, the call is placed at the head of priority 1 (timed overflow high-call queue) of the ACD queue of the agent to whom the call was presented. This assures that the call is presented to the next available agent. If this CCR call was also placed in other ACD queues by *queue* commands from the CCRM application, it is replaced in each of its other ACD queues at the head of the priority at which it had been previously queued. The CCR caller hears ringback when replaced in the queue.

When a CCR call is replaced in the queue, it is not relinked by time in the queue. This affects the DWC display, as well as the Oldest Call in Queue Statistics for CCR statistics. For example, if a CCR call is the only call in the queue, and it is presented then requeued because the agent presses the Not Ready key, the DWC display shows one call in the dddd field (the field that displays virtual calls), with a wait time of zero. The wait time is zero even if the caller has been in the queue longer than zero seconds.

Observe

If a CCR call is presented to a supervisor and the supervisor activates the Observe key, call handling occurs as described in “Not Ready key (Basic)” on page 35.

Originator display

The originator of a call receives a display update when the call is terminated or answered only if it is an internal call or within an ISDN network. When the originator places a call, the originator’s display shows the originally dialed number (a CDN if that was the originally dialed number).

Assuming the originator dials a CDN, when an agent answers the call the agent's ACD DN appears. This ACD DN is either the default ACD DN of the CDN, the number that the default ACD DN diverted the call to (if the call received default treatment), or the ACD DN in which the call had been placed by a CCRM application command (if the call received controlled treatment).

If the agent's ACD DN has a name defined and the originator has CPND allowed Class of Service on the telephone, the name of the agent's ACD DN appears after the agent's ACD DN as follows:

original dialed DN	Agent's ACD DN	Name of Agent's ACD DN

Only M2317, M2008, M2x16, and M2216 telephones can have CPND class of service, and these are the only telephones that can display name information.

Overflow by count

When a call is placed in an ACD queue by default treatment for a CDN, the overflow threshold of that queue is followed. When the threshold is exceeded, any overflow destinations defined for the ACD DN are considered based on the existing rules for this feature.

Controlled CCR calls that are queued by multi-queuing at an ACD queue do not count toward the ACD DN's queue size when calculating whether the overflow (OVTH) and BUSY thresholds are exceeded. Also, controlled CCR calls placed in an ACD queue by the Queue To command are not subject to the overflow threshold. Even if the overflow threshold has been exceeded for an ACD queue, controlled CCR calls can still be placed in that queue and does not go to overflow.

Therefore, a situation could occur where the combined number of ACD calls and controlled CCR calls exceed the overflow threshold. The CCRM application determines the number of CCR calls that are placed in an ACD queue.

CDNs are not allowed as overflow destinations for Automatic Overflow.

PDP

CCR and PDP hardware are mutually exclusive.

Ringing Number Pickup

A telephone within the same call pickup group as an ACD agent is not allowed to pick up a ringing ACD call. This also applies to CCR calls, both controlled and default.

Set Agent Priority (SAPA) /Select Agent Position (SAGP) commands

If the supervisor issues a SAPA or SAGP command against an agent while the agent is presented with a CCR call, call handling occurs as described in “Not Ready key (Basic)” on page 35 if the customer has installed ACD-C or ACD-D.

Supervisor Control of Queue Size

When calls are routed to an ACD DN or placed in an ACD queue because of default operation, the call can receive busy tone treatment due to this feature (provided this feature is configured at the destination ACD DN and the overflow conditions necessary to activate this feature are met). The decision to provide a busy tone depends on the origination party type (DID calls and CO calls).

Supervisor Control of Queue Size interacts strongly with the CDN’s call ceiling function, since both use thresholds to control queue size. If the call ceiling threshold is less than or equal to the overflow threshold used by Supervisor Control of Queue Size, default CCR calls are not handled by the Supervisor Control of Queue Size feature because the call ceiling is always reached before the overflow threshold. When the call ceiling is reached, any new default CCR calls are not placed in the default ACD DN. They are handled by the call ceiling function.

If the call ceiling for a CDN has not been reached, calls are allowed to go to the default ACD DN. When a default CCR call reaches the default ACD DN, it is subject to treatment defined for that ACD DN (except for RAN and music), including Supervisor Control of Queue Size. If a default CCR call reaches the ACD DN and the Supervisor Control of Queue Size is in force (for example, acting on incoming calls), the CCR call receives the treatment this feature applies to it.

For controlled calls, if the CCRM application requests the call to queue to a particular ACD DN that has the Supervisor Control of Queue Size feature activated, then the call is queued at the ACD DN regardless of its overflow conditions. These controlled CCR calls do not count toward the overflow condition of the ACD DN.

Telset Messaging

Telset Messaging allows a caller to leave a message with the Message Center while in an ACD queue without talking to an agent using telephone-based menus. This feature is supported for default CCR calls only.

Timed Overflow and Enhanced Overflow

When a call is placed in an ACD queue by the default mode of operation for a CDN, the call is allowed to time overflow by the time overflow timer (TOFT) value (or timer values for Enhanced Overflow) defined for the ACD queue. CCR calls placed in an ACD queue by controlled-mode treatment are not subject to timed overflow or enhanced overflow treatment.

CDNs are not allowed as overflow destinations for enhanced overflow and timed overflow.

Trunk Night Number

A CDN can be defined as a Trunk Night Number.

Trunk priority

Calls arriving by incoming trunks can have two levels of priority: high and none. If a CCR call receives default treatment, it retains its trunk priority. However, if a CCR call receives controlled treatment, the priority of the call is controlled by the CCRM application, and one of four levels of priority, not associated with the trunk, can be assigned. In controlled mode, the trunk priority of a call is overridden by the CCRM application if it issues a queue request. A trunk priority on a default call cannot be overridden.

Features requirements

Customer Controlled Routing (CCR) is package 215. It requires Enhanced ACD Routing (EAR, package 214), Unique Call ID (CALLID), package 247), and Command and Status Link (CSL, package 77).

CCR reporting requires either Meridian Max 4.0 or ACD management reports (ACD-C, package 42).

Dialed Number Identification Service (DNIS) (Advanced)

Several optional features make up the Automatic Call Distribution (ACD) Dialed Number Identification Service (DNIS). After a general description of DNIS, each of these features is described in this section.

DNIS overview

The ACD Dialed Number Identification Service (N digit DNIS) displays up to thirty-one digits of the dialed DN received from DID and Tie trunks on the ACD agent's display.

In telemarketing environments, DNIS can reduce the time needed to serve a call. For example, the dialing plan can be configured so the DNIS digits represent product lines or services. The ACD agent can then answer incoming calls with the appropriate response.

DNIS offers these functions:

— Displays the DNIS digits on an agent's display.

— Displays information sent through the Application Module Link (AML) to the host computer on the agent's display.

— Makes DNIS information available across all modifications to Customer Controlled Routing (CCR)

— Beginning with X11 Release 19, DNIS information is available across all modifications to:

- Third Party Vendor Host Application (AML) supports
- Third Party Vendor applications via the Auxiliary Processor Link (APL)
- Network ACD (NACD) calls queued at a remote target
- Feature Group D (FGD) trunk calls
- Customer Controlled Routing (CCR)
- High Speed Link (ACD MAX and Meridian MAX)

With DNIS enabled, the agent's display shows the following information:

ACOD—MEM—DNIS

Legend:

ACOD = trunk group access code
MEM = trunk member number
DNIS = pulsed-in DNIS numbers

DNIS Length Flexibility

DNIS Length Flexibility modifies the number of digits currently supported. The Route Data Block defines the length of the DNIS information to display.

— X11 Release 19 supports a flexible DNIS of three to four digits.

— X11 Release 23 supports a flexible DNIS of one to seven digits.

— X11 Release 24 supports a flexible N digit DNIS range of one to thirty-one.

— ACD DNIS routing (IDC-DNIS) supports 16 digits of DNIS

— Name Display for DNIS support seven digits of DNIS.

This feature is supported by both ACD and NACD. The appropriate number of DNIS digits is preserved across call modification, included in Call Detail Recording (CDR) records, and sent across the Applications Module Link (AML).

The number of DNIS digits supported by:	X11 Release 19	X11 Release 23	X11 Release 24
Applications Module Link (AML)			30
Auxiliary Processor Link (APL)	4	4	4
Call Detail Recording (CDR)	3-4	1-7	1-7
Customer Controlled Routing (CCR)	3-4	1-7	20
Dialed Number Name Display	3-4	1-7	1-7
Digit Display	...	...	12
Feature Group D (FGD)	3-4	1-7	1-7
High Speed Link (HSL)	3-4	1-7	1-9
IDC translation to Internal DN			16
Meridian Mail	3-4	1-7	1-30
Meridian MAX 8.0	...	1-7	
Meridian MAX 9.0	...	...	1-9

DNIS operations

The Auto-terminate feature of DNIS works as follows: When a call is received from a DID or Tie trunk, a verification is performed to make sure it belongs to a DNIS trunk group. If it does, the pulsed-in digits are collected and stored. When the proper number of digits are received, the call is auto-terminated at the ACD DN specified for that trunk. The pulsed-in DNIS digits are shown on the agent's display.

If an ACD DN is not specified for a trunk, a DNIS call defaults to the attendant, the DNIS number is not displayed, and an error message is printed at the maintenance terminal. The DNIS number is not displayed on the attendant console, but is displayed on the agent's display when the call is extended.

Host interface environment

On call presentation, a message is sent across a link to the host computer, if equipped. This link could be the Meridian Link or the Auxiliary Processor Link, depending on the application.

Within host interface environments, DNIS messages are sent across the link for the following applications:

— **DNIS Call Presentation** identifies the agent position for the host computer.

— **DNIS Call Answered** informs the host computer that a DNIS call has been answered. A screen of information is presented to a terminal at the agent position.

— **DNIS Call Disconnects** informs the host computer that the agent who answered the DNIS call is available for other calls.

Messages for the host interface contain the DNIS number and an agent ID number to identify the agent position for the host computer. The host computer needs a "look-up table" in the database to reference agent position numbers and the proper ports. The host computer can then send a screen of appropriate information to a terminal at the agent position when the call is answered. If the DNIS number is less than the number of digits it can accommodate, the number field is filled with leading zeros. These are all one-way messages from the switch to the host computer.

The Auxiliary Processor Link (APL) consists of a hardware driver and a software driver used together to transmit messages and route commands between the host computer and the switch. The software driver sends message packets back and forth between the host computer and the switch. The APL supports four digits of DNIS information.

One end of the link terminates on the Serial Data Interface (SDI) port within the Meridian 1. The other end terminates on one of the Input/Output ports on the host computer. The physical link between the host computer and the switch is a full-duplex, asynchronous, 4800-baud data link, RS-232-C compatible. The Meridian Link requires the ESDI QPC-513 G card.

Feature interactions

With X11 Release 18 and later, DNIS Across Call Modifications preserves the DNIS information across certain call modifications and enhances DNIS operation and functionality. Refer to “DNIS Across Call Modifications (Advanced)” on page 141. Some of the following feature interactions may not apply with X11 Release 18 and later releases.

Call Transfer

Before X11 Release 18, DNIS Across Call Modifications information was lost when calls transferred to another queue. Refer to DNIS Across Call Modifications in this document for additional information.

Display

Before X11 Release 18, DNIS only supported initial call presentation. Refer to “DNIS Across Call Modifications (Advanced)” on page 141 for additional information. The DNIS number was displayed for three events.

— The calls that Overflow to the queue.

— The calls that Interflow to an internal destination.

— During Night Service when the NCFW destination is internal.

When a target agent answers a call that has overflowed, the source ACD DN is displayed with the DNIS number.

The display is cleared when certain features interact with DNIS. After completing the functions listed here, the DNIS number is redisplayed after the dialing party is restored:

— Call On Hold

— Call Consultation

— Calling Party Number key

— Charge key

For the features interacting with DNIS, the display clears during operation. DNIS is not displayed when the following functions are accessed:

— Display Queue key

— Observe Agent key

— ACD Supervisor (ASP)

— ACD Emergency (EMR) key

— Attendant Barge-In

— Attendant Recall (ARC) key

— Conference calling

— Display (DSP) key

— Parked Calls

Digit Insertion

DNIS routes are not eligible for digit insertion.

Operating parameters

Auto-terminating DID trunks, Tie trunks, and FGD-DNIS trunks (X11 Release 19 and later) supports DNIS. The DNIS information is *not* supported on any other trunk type.

Auto-terminating ACD DNs for DNIS are specified at the trunk level.

The DNIS call does not terminate until the proper number of digits are received.

— If the call terminates on a non-ACD DN, the DNIS number is not displayed and messages are not sent across the link.

— The DNIS number display is not supported on the Electronic Switched Network (ESN) or for Trunk Digit Insertion (TDI).

If ACD DN is not specified for auto-termination, the call defaults to the attendant. The DNIS number is not displayed on the attendant console.

DNIS requires DNIS (package 98), ACD advanced features (package 41), and Digit Display (package 19).

Refer to the feature package and dependency chart located in *Features and Services* (553-3001-306) Feature Implementation

Configure the following overlays for full functionality of DNIS messaging:

— Define SDI port for Auxiliary Processor Link in Load 17.

— Define Incoming Digit Conversion table in Load 49.
And

— Define IDC-DNIS route in Load 16.

OR

— Define a trunk that auto-terminates on ACD-DNIS in Load 14.
And

— Define a route Auto Terminate Route in Load 16.

— Define APL Link number, enable the Incoming Digit Conversion (IDC) operation to include DNIS for a customer in Load 15.

— Define ACD group in Load 23.

LD 17 – Define SDI port for Auxiliary Processor Link.

Prompt	Response	Description
REQ:	CHG	Change existing data.
TYPE:	CFN	Configuration Record.
ADAN	NEW TTY 0-15	Add an APL port.
CTYP	aaaa	Card type. aaaa = DCHI, SDI, SDI2, SDI4
USER	APL	APL port connects to data link.

LD 49 – Define Incoming Digit Conversion (IDC) table.

Prompt	Response	Description
REQ:	NEW	Add new data.
	CHG	Change existing data.
TYPE:	RDB	Route Data Block.
CUST	0-99	Customer number.
DCNO	0-254	Incoming Data Conversion (IDL) tree number.
...	...	...
...	...	...
IDGT	0-9999 0-9999	Incoming digits to be converted to ACD DN.
		To delete a DN or a DN from a range of DNs Prompt: Response IDGT: 3440 3440 x
	<CR>	Re-prompt request.

AND

LD 16 – Define IDC-DNIS route.

Prompt	Response	Description
REQ:	NEW	Add new data.
	CHG	Change existing data.
TYPE:	rdb	Route data block.
CUST	xx	Customer number xx as defined in Load 15.
ROUTE	xxx	Route number.
...	...	...
AUTO		Auto-terminate.
	NO	YES = The route members terminate on DN defined by response to ATDN prompt in Load 14. NO = The route members terminate normally.
DNIS	YES	ACD DNIS route.
--NDGT	1-31	Number of DNIS digits expected.
--WDGT	F/L	First or last 4 digits for APL. First or last 12 DNIS digits for digit display. First or last 9 DNIS digits for MAX. First or last 7 DNIS digits for CDR.
--IDC	YES (NO)	Incoming DED digit conversion on this route allowed/denied
--DCNO	0-254	IDC translation table for this route in the day mode.
--NDNO	0-254	IDC Conversion Table for the night mode.

OR

LD 14 – Define a trunk that auto-terminates on ACD-DNIS.

Prompt	Response	Description
REQ:	NEW	Add a trunk.
TYPE:	DID	Direct Inward Dialing trunk type.
RTMB	x y	x = Route number defined in LD 16 y = member number
ATDN	xxxx	xxxx = ACD-DN defined in LD 23.
CLS	DTN	Digitone signaling.

AND

LD 16 – Define a route with DNIS feature enabled and auto-terminate.

Prompt	Response	Description
REQ:	NEW	Add a new route.
	CHG	Change existing data.
TYPE:	RDB	Route Data Block.
CUST	0-99	Customer number. (Associated with this route as defined in LD 15.)
ROUT		Route number.
	0-127	0-127 = This range applies for all machines.
	0-511	0-511 = This range applies for machines NT, RT, NT, STE and XT and for option 21E, 51, 51C, 61, 61Cm 71, 81, and 81C. ***Note:*** In X11 Release 14 and later, route 31 is no longer reserved as a Private route but can be configures as one.
...	...	

AUTO		Auto-terminate trunk.
	YES	YES = Allow Auto-terminate trunk. NO = Deny Auto-terminate trunk.
DNIS		ACD-DNIS route.
	(NO)YES	(NO) = Deny ACD-DNIS route. YES = Allow ACD-DNIS route. ***Note:*** Prompted with Automatic Call Distribution Package D. (ACCDD) package 50, and the RTYP = TIE or Direct Inward Dialing (DID).
NDGT	1-(4)-7 1-(4)-31	Number of DNIS digits required on the route. The extension to 31 digits is available only for DID, TIE or IDA routes.
WDGT	(L) F	First or last 4 DNIS digits to be sent on APL and HSL link. WDGT has no effect on AML links. All DNIS digits are sent for AML. Prompted if NDGTR is greater than 4. Also used for CDR when the New Format CDR (FCDR) package 234 is disabled. ***Note:*** The number of (MFX), MFE or MFC digits takes precedence over the number of DNIS digits that are configured.

LD 15 – Define APL Link number, enable the Incoming Digit Conversion (IDC) operation to include DNIS for a customer.

Prompt	Response	Description
REQ::	NEW	Add new data.
	CHG	Change existing data.
TYPE:		Disable/Enable New flexible code Restriction
	CDB FTR	Customer Data Block. Release 21 gate opener.
CUST:	xx	Customer number.

NFCR		New Flexible Code Restriction.
	(NO)YES	(NO) = Default, disable New Flexible Code Restriction. YES = Enable New Flexible Code Restriction To build an Incoming Digit Conversion (IDC) table in LD 49, NFCR and Incoming DID Digit Conversion (IDCA) must be set to YES. NFCR is prompted with New Flexible Code Restriction (NFCD) package 49.
MAXT	1-255	Maximum number of New Flexible Code Restriction (NFCR) tables. Once defined a lower value cannot be entered for MAXT. The sum of the values for MAXT + DCMX ≤ 255 per customer.
IDCA		Incoming DID Digit Conversion
	(NO)YES	(NO) = Default. Deny Incoming DID Digit Conversion. YES = Allow Incoming DID Digit Conversion. NFCR must = YES before IDCA can = YES. Prompted with Incoming Digit Conversion (IDL) package 113.
DCMS	1-255	Digit conversion maximum number of tables (DCMS). The sum of the values for MAXT and DCMX cannot exceed 255 or MAXT + DCMX = 255.
OPT	DNI	Dialed Number ID Service included.
APL	0-15	Auxiliary Processor Link number.

LD 23 – Define ACD group.

Prompt	Response	Description
REQ:	NEW	Add ACD group.
TYPE:	ACD	ACD data block.

CUST	xx	Customer number.
ACDN	xxxx	ACD Directory Number.

Digit DNIS for Meridian MAX

The X11 Release 24 feature, N Digit DNIS for MAX, expands Automatic Call Distribution (ACD) Dialed Number Identification Service (DNIS) capabilities. With the N Digit DNIS feature (X11 Release 24 software), the Meridian MAX 9.0 displays up to 9 digits of DNIS information.

When an ACD call arrives on a DNIS route, the Meridian 1 sends DNIS information to the Meridian MAX via the High Speed Link (HSL). The Meridian MAX 9.0 with X11 Release 24 supports nine digits of DNIS information.

The X11 Release 20 features Seven Digit DNIS for MAX. With the seven digit SNIS feature, the Meridian MAX version 8.0 supports up to seven digits of DNIS information coming from Meridian 1. With Seven Digit DNIS, if the DNIS information is more than seven numbers, the

Operating parameters

The N Digit DNIS for MAX functions when Meridian MAX Release 9 or the High Speed Link (HSL) protocol is set at 12 or above.

Feature Group D supports seven digits of DNIS information.

The N Digit DNIS for the MAX feature is not supported on an Auxiliary Processor Link (APL).

Applications and features display DNIS in the following ways:

The N Digit DNIS for Meridian MAX feature modifies the ACD-D messages which contain DNIS information. X11 Release 24 or later must be used to support this feature. MAX Release 7 and HSL Protocol 11 or lower, still support the three to four digit DNIS messages. X11 Release 23 still supports seven digit DNIS, and provides the previous functionality.

As per the existing feature, if system initialization occurs during a call, DNIS information is not retained.

As per the existing feature, if the Meridian MAX is not functioning, the Meridian 1 is unable to send messages to the Meridian MAX.

Feature interactions

Auto Terminating Trunks

An Auto Terminating Route may be used as a DNIS route. In this case, when a call is received from an Auto Terminating trunk, the call terminates at the Automatic Call Distribution Directory Number (ACD-DN) that is defined for that trunk. The dialed DNIS digits are shown on the agent's display. With the N Digit DNIS for MAX feature, the affected MAX version 9.0 messages contain nine digit DNIS number.

Call Detail Recording

Call Detail Records contains seven DNIS digits. With X11 Release 24 software, the expanded number of DNIS digits for Meridian MAX does not change the CDR feature operation. The Call Detail Recording displays seven digits, either the first seven or the last seven digits of DNIS information depending on the configuration of the N digit DNIS feature.

Conference Transfer

With the N Digit DNIS for MAX feature, affected messages for Conference and Transfer calls contain the seven digit DNIS number.

Customer Controlled Routing

Customer Controlled Routing (CCR) is upissued to support Release 24. Messages are modified to allow for 1-31 digits DNIS.

Digit Display for DNIS

The meridian 1 proprietary sets displays the number of DNIS digits allowed by the set's display. If the digits exceed the set display capabilities, the last digits entered are displayed. For example, the M2616 set display supports 12 characters, if the DNIS digits are 1234567891234567, the M2616 set displays 567891234567.

Feature Group D

When a DNIS trunk call originates from a Feature Group D (FGD) trunk and the terminating agent performs call modifications, the DNIS number appears on the terminating set. If the DNIS-CDAR option of the incoming FGD trunk's Route Data Block is enabled, the DNIS number is placed at the end of the CDR record. The DNIS modification supports one to seven DNIS digits.

Multiple Queue Assignment

There were no new Meridian MAX messages introduced with Multiple Queue Assignment (MQA). The DNIS feature reacts differently depending on the X11 Release software installed.

— With X11 Release 23 and lower, the Meridian MAX supports seven digits DNIS messages.

— With X11 Release 24 software, the Meridian MAX 9.00 supports nine digits DNIS messages.

Network Automatic Call Distribution

The Meridian 1 sends DNIS information to the target node which is used for the target agent's set display or for ACD-D reporting.

— With X11 Release 23 and lower, seven DNIS digits are sent from the source node to the target node, the Meridian MAX, which supports seven digits of a DNIS message.

— With X11 Release 24, the Network Automatic Call Distribution (NACD) sends and receives DNIS calls to a remote node through an NACD-Call Setup message. The remote node receives and saves the expanded on to thirty-on digits DNIS message. This message is then sent to the target node, Meridian MAX 9.00, which supports nine digits of a DNIS message.

Feature packaging

The seven Digit DNIS for the Meridian MAX feature, X11 Release 23 and earlier, requires the following:

— Dialed Number Identification Service (DNIS) package 98.

— Automatic Call Distribution Package D (ACDD) package 50.

This feature is packaged as part of the existing DNIS package 98. The nine Digit DNIS requires the following packages:

— X11 Release 24 and later.

— Dialed Number Identification System (DNIS) package 98.

— Automatic Call Distribution (ACDA) package 45.

— Digit Display (DDSP) package 19.

— Incoming DID Digit Conversion (IDC) package 113.

— New Format Call Detail Recording (FCDR) package 234.

Feature implementation

No change to the existing configuration procedure is required for this feature.

Feature operation

No specific operating procedures are required to use this feature.

DNIS Across Call Modifications (Advanced)

Available with X11 Release 18 and later, this feature enhances DNIS operation and functionality and preserves the DNIS name and number display across the following call modifications:

— **Conference and No Hold Conference** redisplays DNIS information when a call returns to a two-party call from a conference call.

— **Transfer** displays the DNIS information on the terminating telephone if an agent transfers a DNIS call.

— **Privacy Release** redisplays DNIS information when the third party releases.

— **Mixed DNs** redisplays DNIS information when a 500/2500 telephone disconnects.

— **End-to-End Signaling** redisplays DNIS information when a call is put on hold and then restored.

Beginning with X11 Release 19, DNIS is also preserved after the following modifications:

— **Parked Call** redisplays DNIS information when a parked call is accessed or recalled.

— **Network Automatic Call Distribution (NACD)** allows the DNIS information from a source ACD DN to be used at the remote target agent's set or terminal display. The DNIS information can be used to update the display or terminal screen, or in ACD-D reports.

— **Feature Group D (FGD)** supports using the DNIS number of an FGD-DNIS trunk for updating the agent's set display or terminal screen, or in ACD-D reports.

— **Third Party Vendor Applications (APL)** support using the DNIS number for telemarketing applications.

— **Third Party Vendor Host Applications (AML)** support host applications that use the DNIS number to bring up the agent's terminal screen.

— **Customer Controlled Routing (CCR)** can use the DNIS number to determine different call processing treatments for a DNIS trunk call.

— **High Speed Link (ACD-D Reporting)** can use DNIS information to generate DNIS reports.

Operating parameters

If a system initialization occurs while doing a call modification, the DNIS number stored in the unprotected Trunk Data Block is cleared and is no longer available.

DNIS Display Across Call Modification only supports two-party calls.

DNIS Display Across Call Modification can only be preserved if the call modifications or redirections are performed within the same switch. For example, an agent receiving a call from a DNIS trunk at Site A transfers the call to Site B. The agent answering the call at Site B does not see the DNIS information.

In NACD (X11 Release 19 and later), to display DNIS information on a remote target agent's set does not require the DNIS package at the remote site.

An NACD call that is rerouted to a remote target node displays either the DNIS name or the DNIS number, but not both (X11 Release 19 and later). The DNIS name appears if it is available; otherwise, the DNIS number appears. Availability of the name depends on enabling the IDC DNAM option and defining the DNIS name of an IDC-DNIS trunk call in the CPND table.

DNIS Display Across Call Modification applies only to DNIS routes.

Feature interactions

ACD Emergency Key (EMR) key

If the ACD Emergency Key is used during a DNIS call, the display is cleared during the operation. The DNIS number and name are displayed when the call is restored following completion of the operation.

ACD Interflow Conditions

For ACD Interflow conditions, the DNIS number and name appear on the Interflow DN Digit Display.

ACD Observe Agent key

When the ACD supervisor uses the Observe Agent key in Silent Observe Mode, that is, OBTN = NO during a DNIS call, the display is not cleared during operation. In other Observe modes, the DNIS number and name are not displayed following completion of the operation.

ACD Overflow

For ACD Overflow, if the DNIS call overflows to the Target agent, the DNIS name is displayed after the Source DN.

ACD Night Call Forward

During night service, the DNIS number and name appear on the internal Night Service number.

Call Consultation

The DNIS number and name are redisplayed after the dialing party is restored for call consultation.

Call Forward All Calls

The DNIS number and name are displayed if the call has been forwarded to another station.

Call Forward No Answer

The DNIS number and name are displayed for Call Forward No Answer Calls.

Call Park

When a Parked DNIS call is recalled or retrieved, the DNIS number and name are redisplayed.

Calling Party Number key/Charge key

If the Calling Party Number key or Charge key is used, the DNIS number and name are restored when the operation is completed.

Call Pickup

The DNIS name and number are displayed for call pickup from another station.

Call Transfer

For a transferred call, the DNIS number and name are redisplayed when the call transfer is completed.

Calls on Hold

The digit display is cleared. The DNIS number and name are redisplayed after the held party is removed from hold.

CLID

The calling number (CLID) is displayed if a call comes from the ISDN network. If a DNIS call comes from an ISDN network, the CLID name, if defined, and the DNIS number are appended after the CLID in that order on a telephone. With the development of Name Display for DNIS, the DNIS name replaces the CLID name. If a CLID call is redirected to a telephone due to ACD Overflow, Interflow, Night Call Forward, or non-ACD features such as Hunting or Call Forward No Answer, the source ACD DN or original party called is displayed after the CLID number. The DNIS name and number are appended after the redirected number.

Conference/No-Hold Conference

If the Conference key or No-Hold Conference key is used during a DNIS call, the display is cleared during the operation. When the call is restored back to the original two-party call, the display shows the DNIS number and name.

End-to-End Signaling

If an agent or internal telephone performs End-to-End Signaling, the DNIS information is redisplayed when the call is put on hold and then restored.

Hunting

The DNIS number and name are displayed for calls configured in a hunt group.

Integrated Service Access (ISA)

The basic IDC feature supports only incoming DID routes. With ISA enhancements in Release 17, the IDC feature was extended to support FEX, WATS, and Tie routes over an ISDN interface, and supports ISA and non-ISA service routes. If DNAM = YES and the name is specified, the name is displayed on any alphanumeric digit display configured with Call Party Name Display Allowed (CNDA).

Meridian Mail

The display remains only through Meridian Mail transferred calls.

Mixed DNs

When a 500/2500 telephone has the same DN appearance as a Business Communication Set (BCS), and the BCS is active on a DNIS call, the 500/2500 telephone is bridged into the call when it goes off-hook. The DNIS information is redisplayed when the 500/2500 telephone disconnects.

Privacy Release

If there is a multiple appearance DN, and the second DN appearance joins a conversation with a call from a DNIS trunk, the DNIS information is redisplayed when the third party releases.

DNIS on CDR (Advanced)

Available with X11 Release 18 and later, the DNIS number is appended to the end of the existing CDR record when the trunk disconnects. The DNIS number is put into the Start record for all cases. The DNIS number is put into the End record for all cases except when the incoming trunk disconnects first. The DNIS number is put into the Normal record when the call is established.

Operating parameters

The DNIS number is appended to the end of the CDR record following the Feature Group D digits, if the following apply:

— The customer has the DNIS and CDR packages

— The route is a DNIS route

— The new DNIS option in Load 16 is ON

Name Display for DNIS (Advanced)

Name Display for DNIS displays the DNIS number and name for IDC DNIS calls terminating on telephones equipped with a display.

An option Display IDC Name (DNAM) is provided at the route level for IDC routes to allow the display of the IDC name. This supersedes the display of the route name.

All telephones with display and class of service Automatic Digit Display (ADD) and Called Party Name Display Allowed (CNDA) support Name Display for DNIS.

These telephones include the following:

— M2317

— M3000

— Meridian Modular Terminals (M2008, M2016S, M2616, M2216 ACD-1, and M2216 ACD-2)

— Attendant consoles (M1250 and M2250)

Name Display for DNIS requires the following packages:

— Call Party Name Display (CPND) package 95

— Dialed Number Identification Service (DNIS) package 98

— Incoming Digit Conversion (IDC) package 113, which requires New Flexible Code Restriction (NFCR) package 49 and NCOS package 32

Prompts in the CPND data block (Overlay 95) and in the Route data block (Overlay 16) allow a name to be defined for an IDC number belonging to a particular conversion table. For a description of all the prompts and responses, refer to the *X11 System Messages Guide* (553-3001-411)Feature interactions

With X11 Release 18 and later, DNIS Across Call Modifications preserves the DNIS information across certain call modifications and enhances DNIS operation and functionality. Refer to “DNIS Across Call Modifications (Advanced)” on page 141. Some of the following feature interactions may not apply with X11 Release 18 and earlier releases.

When the following functions are activated, the DNIS on the telephone display screen disappears and redisplays when the function is deactivated.

— Call on Hold

— Call Consultation

— Calling Party Number key

— Charge key

The feature interactions for Name Display for DNIS are the same as those for the DNIS, except for the following differences.

ACD Interflow

For ACD Interflow conditions, the DNIS number and name appear on the display when the IFDN is internal.

ACD Night Call Forward

During night service conditions, the DNIS number and name are displayed.

ACD Overflow

If the DNIS call overflows to the target agent, the DNIS name is displayed with the source DN.

Conference Calls

If the Conference key is used during the DNIS call, the display is cleared during the conference operation. When the call is restored to the original two-party call, the new display does not show the DNIS number and name. Instead, the display shows the name associated with the route.

Application Module Link (AML)

DNIS Name Display provides the ACD DN, DNIS number, and position ID in the PCI message for the Meridian link. The DNIS name is not provided.

Network ACD (NACD)

DNIS Name Display is provided for ACD agents within the same switch and for network ACD.

ISDN Calling Line Identification (CLID)

If a DNIS call comes from an ISDN network, the DNIS name replaces the CLID name. Additionally, the DNIS number and name are displayed on an attendant console after the CLID.

Operating parameters

Name Display for DNIS does not apply to auto-terminated DNIS calls.

An IDC name can only be associated with an IDC number explicitly specified for IDC translation in Overlay 49. Partial conversions apply according to the following guidelines:

— Partial IDC conversion to a full DN, only one IDC name can be defined for the entire range of DNs represented by the partial IDC number (for example 33xx to 5006)

— Partial conversion to partial DN when the DN is a valid ACD DN

For instance, if 33 to 5006 is specified, only one ID name can be associated with 33; 3300 to 3399 cannot be individually given a name unless explicitly specified as an IDC conversion. The IDC does not support the asterisk (*) or octothorp (#) as valid digits to translate.

With DNIS Name enabled (DNAM = YES), the DNIS name overrides all other names, including the following:

— Calling Party name or Redirected Party name

— Route name

— Calling Line Identification (CLID) name

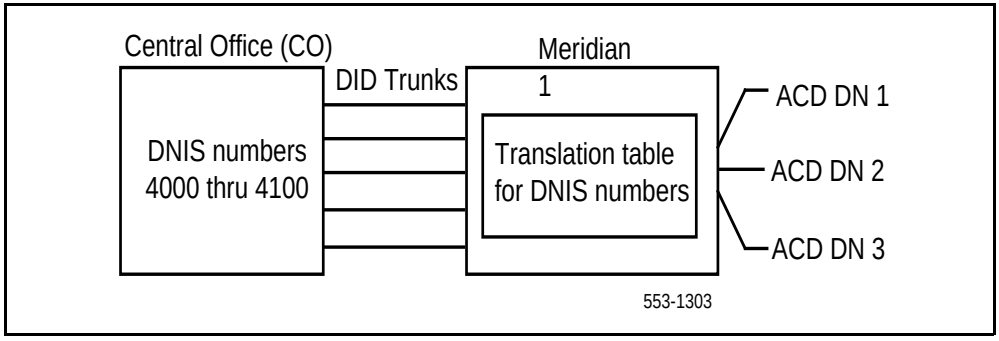
Routing by DNIS number (Advanced)

Routing by DNIS number enhances call distribution within an ACD system. This enhancement allows calls to be routed to a specific ACD DN, based on the DNIS number, instead of auto-terminating as described in the DNIS section.

With Incoming Digit Conversion (IDC), as shown in Figure 5, a set of DID numbers can be matched to existing internal numbering plans. Incoming Digit Conversion (IDC) also allows the conversion of several different DID numbers to a single ACD DN. Complete or partial DNIS numbers can be defined in the IDC translation table using Overlay 49. Refer to the *X11 System Messages Guide* (553-3001-411) for a complete list of prompts and responses.

When the digits received are not in the IDC translation table but are valid for an ACD DN, the digits are passed without changes to the system. The IDC conversion is used only when needed. Invalid calls are routed to the attendant. Figure 5 shows how incoming DNIS numbers are handled by the Meridian system.

Figure 5
Incoming Digit Conversion



Feature interactions

The feature interactions for routing by DNIS are the same as those for the DNIS, except for the following differences:

Digit Insertion

Digit insertion for DNIS routes is not allowed.

New Flexible Code Restrictions

When enabling IDC in Overlay 15, you must respond Yes to both NFCR and IDCA. When not using New Flexible Code Restrictions (NFCR), respond No to the NFCR prompt.

Outpulsing the asterisk and octothorp

Calls with an asterisk (*) or octothorp (#) in the DNIS route are sent to the attendant.

Operating parameters

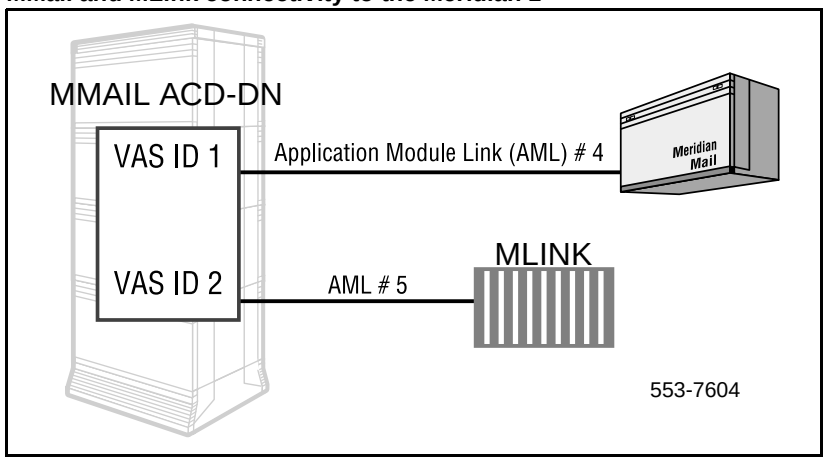
Feature assumptions and feature requirements for routing by DNIS are the same as those for the DNIS, except that in addition to the packaging requirements for DNIS, routing by DNIS requires Incoming Digit Conversion (IDC) package 113.

Dual Value Added Server Identification

The X11 Release 23 feature, Dual Value Added Server Identification (DVASID), allows two applications - Meridian Mail (MMail) and Meridian Link (MLink) - to monitor and control the Meridian Mail ports. Two different Application Module Links (AMLs) can be defined on a Meridian Mail Automatic Call Distribution Directory Number (ACD-DN), one link connected to Meridian Mail and the other to the Meridian Link module.

As shown in Figure 6, MMail and MLink are connected, via the Application Module Link (AML), to the Multi Serial Data Link (MSDL)/Enhanced Serial Data Interface (ESDI) card on the Meridian 1 system.

Figure 6
MMail and MLink connectivity to the Meridian 1



To establish communication between the Meridian 1 and MMail/MLink, an association is established in Overlay 23 between the ACD-DN and the Value Added Server (VAS) ID of the corresponding AML. Please refer to Overlay 23 in the *Administration* (553-3001-311) for information on how to configure the Dual VAS ID.

Previously, only one AML was associated with a single MMail ACD-DN. Therefore, AML messages were communicated only to MMail for any event on the MMail ports. With the Dual VAS ID feature, however, it is possible for AML messages to flow to both MMail and MLink. This allows MLink to monitor the activities of the MMail port. MMail can control the MMail ports, while MLink can only monitor the ports.

For further information on Dual Value Added Server Identification, including feature interactions, please refer to Meridian Link documentation.

Enhanced ACD Routing (Advanced)

Enhanced ACD Routing (EAR) provides the ability to differentiate the delay treatment given to ACD calls arriving from different sources, but queued to the same ACD DN. The number of calls that are forwarded from each source into the call-answering queue can be limited. EAR also provides flexibility in controlling various ACD treatments.

A Control DN (CDN) is a special Directory Number not associated with any physical telephone or equipment, although it must fit into the numbering plan. It uses a count taken from the number of ACD DNs in a system included in the ACD DN limits of Incremental Software Management (ISM). A CDN is not configured with agents of its own, but specifies a destination ACD DN, known as the default, to which incoming calls are directed.

Multiple CDNs can place calls into the same ACD queue, so different treatments can be given to these calls. The treatment given to the call is determined by the parameters of the CDN, not the ACD queue.

RAN and Music treatments given to the call are defined for each CDN. Any other ACD treatment is applied as if the caller directly dialed the ACD DN. For example, if the default ACD DN is in Night Service, the call to the CDN receives Night treatment specified for the default ACD DN.

Control DNs possess the following parameters in common with ACD DNs:

— First RAN route and time

— Second RAN route and time

— First RAN on arrival control

— Music route number

— Report Control

In addition, each CDN also has the following distinctive attributes:

— Default ACD DN. This is the ACD DN to which calls to this CDN are directed. It is similar to the NCFW DN except that it must be a local ACD DN.

— A ceiling value that limits the number of unanswered calls that a CDN can have at its default ACD DN at any one time. New calls receive busy treatment once the ceiling is reached. CO trunk calls do not receive busy treatment; they are placed in the queue.

New calls receive a busy signal until the number of calls queued against the default ACD DN drops below the ceiling value.

Calls arriving at a CDN are queued to the CDN's default ACD DN. The default ACD DN (or queue) must be local. An ACD DN that is defined for data service access cannot be used as a default ACD DN. CDN calls retain their trunk priority when placed in the ACD queue. Calls placed in the ACD queue from a CDN are treated exactly like any other calls in the queue, except for those CDN parameters that differ from the queue's parameters (for example, RAN and Music treatment).

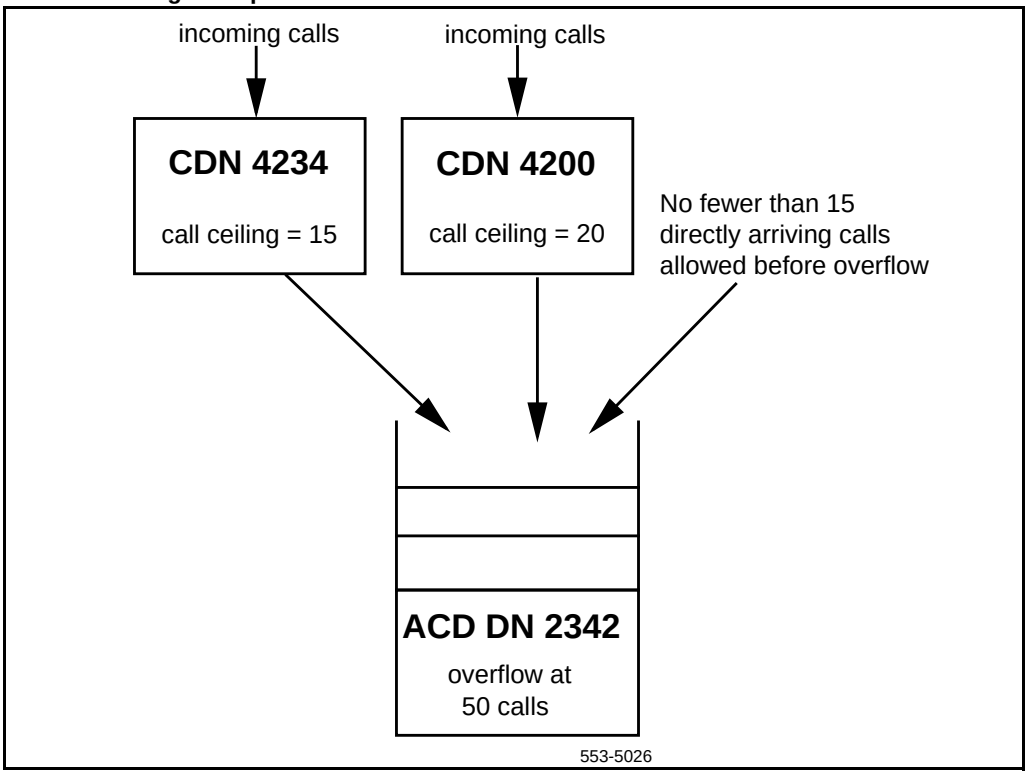
Call ceiling

The call ceiling defines the maximum number of calls the CDN can place into its default ACD queue. Once the CDN reaches the call ceiling, any additional calls arriving at the CDN receive a busy tone until the number of unanswered calls from the CDN falls below the call ceiling.

Once a call is answered by an agent in the default queue, it no longer counts against the CDN's call ceiling.

Because several CDNs can feed into the same ACD queue, the call ceiling can be used to control the flow of incoming calls from various sources into an ACD queue. By carefully configuring each CDN's call ceiling, calls from an individual CDN do not overload the default ACD DN. This allows an equitable call answering pattern. Figure 7 shows a CDN call ceiling example.

Figure 7
CDN Call Ceiling example



Feature interactions

ACD Ring Again

Ring Again is not allowed to operate on CDN queues. However, once the call is queued at an ACD DN, Ring Again is available if configured.

Agent display

When an EAR call is either presented to, or answered by, the agent (depending on the agent's display class of service), the agent's display shows the following:

— originator information

— DNIS number (if applicable)

— Original Called Information

The CDN is covered by the Original Called Information category. The displaying of the CDN conforms to the current X11 software operation. Therefore, if a call initially dials a CDN, when that call is presented to or answered by an agent (depending on the agent's display class of service), the original called number, the CDN, is displayed.

If the CDN has a name defined for it, and if the agent's telephone has the CPND allowed class of service, and the DNIS Name (DNAM) option is not enabled in the incoming route block, then the name of the CDN is displayed instead of the originator's or DNIS name.

Agent and Supervisor Keys

If an EAR call is presented to an agent, and the agent activates an Agent/Supervisor key, call handing occurs as described in "Agent and supervisor communication (Advanced)" on page 23.

Alternate Answering Service

A CDN is not allowed to be an AAA DN.

APL Messages

If an AUX Processor is equipped, APL messages are sent across the APL link when an EAR call is given to an ACD agent through the default treatment.

Attendant Extension

Attendant extension to a CDN is supported.

Attendant Overflow Position

A CDN is not allowed to be an attendant Overflow DN.

Attendant Recall

Once a call is extended by the attendant to a CDN, it cannot recall back to the attendant console.

Auto-terminate Trunks

Auto-terminate Trunks are allowed to terminate to a CDN (auto-termination number). If the trunk is designated as a DNIS trunk, the DNIS digits are delivered to the CDN and are carried with the call to ACD queues where it ends with the EAR treatment.

Busy Verify

The attendant is not allowed to perform a Busy Verify into the originating trunk of an EAR call.

Call Forward

A CDN cannot be defined as an FDN. Further, if a user has a CFW key defined on the telephone and attempts to program the telephone to Call Forward All Calls to a CDN, this is not allowed and the overflow tone sounds.

Call Park Recall

If an EAR call is answered by an agent who subsequently parks it, the call recalls back to the ACD DN of the agent and not the CDN.

Call Party Name Display (CPND)

The CDN can be assigned a name with CPND as for any other DN. The name is also available for telephone displays and for other applications to which the CDN can pass the call.

This feature operates only for M2317, M2008, M2216, and M2616 telephones with CPND Class of Service. When a target agent answers a call, the agent position DN or Trunk Access Code is displayed.

Call Transfer

Call transfer to a CDN is supported. Call transfer to a CDN automatically puts the call in the default ACD DN queue. If the transfer is completed when there are calls in the ACD queue, the call is removed from the ACD queue and linked into the back of the ACD queue with the new originator information.

Additional Call Transfers are possible, involving network call redirection. If Telephone A at Node A calls Telephone B at Node B, and Telephone B activates the transfer key initiating a transfer to a CDN at Node C, when Telephone B completes the transfer, Telephone A's display is updated according to the mode of the CDN at Node C. If the CDN has the EAR option, Telephone A gets the default ACD DN on the display if Telephone A is placed in the default ACD DN queue. Otherwise, the display is updated with the number to which the default ACD DN diverts the call.

Calls Waiting Indication (AWC)

Once an EAR call has been placed in the default ACD DN, it is considered a regular ACD DN call (except the call gets its RAN and music treatment from its source CDN). Therefore, an EAR call is reflected in the AWC display as a regular ACD call.

Centralized Attendant Service

An attendant at the main site can extend a call to a CDN at a remote location. The extension cannot be completed until the destination lamp is lit/wink.

Customer Night Number

A CDN cannot be defined as a customer night number.

Dialed Number Identification Service (DNIS)

The ACD DN the call goes to can be obtained from the auto-terminate field in the protected trunk block or can be obtained through IDC translation tables.

Calls arriving at an ACD DN by a CDN have the same DNIS information as if they entered the ACD queue directly.

Display Waiting Calls (DWC)

Once an EAR call has been placed in the default ACD DN, it is considered a regular ACD call (except the call gets its RAN and music treatment from its source CDN). Therefore, EAR calls are counted for the DWC in the "aaa" field.

DN Expansion

Five- to seven-digit directory numbers are supported for CDNs.

Enable Interflow (ENI) key

A CDN cannot have an ENI key defined for it.

Hunt

A CDN cannot be defined as an FDN or a Hunt DN.

Incoming Digit Conversion (IDC)

CDNs can be entered as a valid termination in the IDC tables. A call can be rerouted to a CDN based on entries in the IDC tables.

Incremental Software Management (ISM)

CDNs are counted as ACD DNs. For example, the limit specified by ISM for ACD DNs applies to the sum of CDNs and real ACD DNs.

Individual DN (IDN) keys

An IDN key can be any DN type key, such as SCR, MCR, SCN, and PLR. If an IDN key is activated while an EAR call is presented to the agent, call handling occurs normally.

Last Number Redial

The stored number that can be redialed is the default ACD DN. The call is routed by the default treatment instead of the normal dialed DN, which is the CDN in this case.

Make Set Busy

If an EAR call is presented to an agent, and the agent activates the MSB key, call handling occurs as described in the MSB section.

Multi-Tenant Services

When an EAR call first enters the default ACD queue, it receives intercept treatment if the tenant number of the first agent of the default ACD DN is denied access to the originator of the call.

Network ACD (NACD)

NACD target tables are not provided for CDNs, nor are CDNs allowed as targets for NACD Routing Tables of other ACD DNs. If a remote CDN is specified as a target in an ACD DN routing table, the request is refused by the remote node and an NACD error message is issued locally indicating an invalid DN.

EAR calls can access the NACD routing tables of the destination ACD queue where they reside.

The name of the CDN is sent to the target node if the CDN is the originally dialed number.

Network CPND

Network CPND includes a new prompt, RCAP, in the configuration per D-channel to indicate whether to send the name

— when the call is answered (ND1)

— when the call is presented (ND2)

ND1

If the ND1 option is enabled, the originator's telephone is updated with the name at the time the call is connected. Therefore, if a CDN is dialed, the originator's telephone is updated with the name of the ACD DN of the agent who answered the call. However, if RAN is given before the call is answered, the originator's display is updated with the name of the ACD DN whose queue the call is in.

ND2

If the ND2 option is enabled, the originator's telephone is updated with the name at the time the call is presented. Therefore, if a CDN is dialed, the originator's display shows the name of the default ACD DN or the name of the ACD DN that the default ACD DN diverted the call to via NCFW, Automatic Overflow, or Interflow.

Network Call Forward No Answer

Enables a person to define a trunk access code or NARS/BARS for an FDN. When the call is ringing at the remote FDN, the originator's display is updated with the redirection number (and name if defined).

Since there is no cross-checking with the terminating node to verify the number entered, CDNs are allowed to be entered as remote FDNs.

If a CDN is entered as a remote FDN, the originating telephone is updated with the default ACD DN if the call is put into the default ACD DN queue, or the number of wherever the default ACD DN diverts the call if the call does not remain in the default ACD DN queue.

Network Call Redirection

Enables a person to define a trunk access code or NARS/BARS for a Hunt DN. When the call is ringing at the remote Hunt DN, the originator's display is updated with the redirection number (and name if defined).

Since the terminating node does not cross-check to verify the number entered, CDNs can be entered as remote Hunt DNs.

If a CDN is entered as a remote Hunt DN, the originating telephone is updated with the default ACD DN if the call is put into the default ACD DN queue, or the number of wherever the default ACD DN diverts the call if the call does not remain in the default ACD DN queue.

This feature also provides terminating number display information for transfer and call pick-up redirections. For example, if Telephone A at Node A calls Telephone B at Node B, and Telephone B transfers Telephone A to a CDN at Node C, after completing the transfer, Telephone A's display shows the following:

— the CDN's default ACD DN, if the call is put into the default ACD DN queue

— the number of wherever the default ACD DN diverts the call, if the call does not remain in the default ACD DN queue

The original called number (and name) is displayed on the terminating telephone; but if a non-ISDN trunk or a switch that does not support the original called number message is encountered, then the redirecting number and name is used instead. A CDN can be a redirecting number and name.

Network Call Trace

A call within the ISDN network that is calling a CDN is allowed to have Network Call Trace (NCT) performed on it. The Network Call Trace information collected for an EAR call is discussed in different scenarios:

— Telephone A dials a CDN and the call is presented to an ACD agent immediately. The NCT output shows ORIG node and TERM node information with STAT of RING.

— Telephone A dials a CDN and the call is waiting in the default ACD DN. The NCT output shows ORIG node and TBD node information with STAT of ACD.

Network Call Transfer

Network Call Transfer is supported for a CDN. If a caller on Node A calls a telephone at Node B and the telephone at Node B initiates a transfer to a CDN at Node A, when the transfer is completed, the trunks between Node A and B are disconnected. Handling of a call transferred to a CDN by Network Call Transfer is handled as described in “Call Transfer” on page 156.

Night Key Digit Manipulation

This feature allows an IDC route to have two routes defined—one for day and one for night. It also allows a new key (DRC) to toggle between the two routes on a per route basis.

Since a CDN can be defined as a termination in an IDC table, then a call from an IDC trunk can terminate to a CDN through both the day and night tables.

Night Service Treatment

When the default ACD DN of a CDN is in Night Service, all EAR calls entering the ACD queue receive the Night Service treatment of the default ACD DN (Night RAN, Night Call Forward).

CDNs are valid destination DNs for the Night Call Forward DN of an ACD DN. A Night Service (NSVC) key cannot be defined for a CDN.

Calls Waiting Indication (AWC) key

When the ACD queue enters Night Mode, the AWC key lamp goes dark, indicating calls are not eligible to be answered since the queue is in Night Service.

Display Waiting Calls (DWC) key

When the ACD queue enters Night Mode, all of the fields in the display are zero. Since calls are not eligible to be answered and agents are not available, the queue is in Night Service.

Night Call Forward

EAR calls are allowed to Night Call Forward.

Night Mode by the NSVC key

When an ACD queue enters Night Mode by the Night Service key, the EAR calls are treated as described in the Night Service section.

Night RAN

An EAR call receives the night RAN as it is defined for the ACD DN in which it is currently queued.

Not Ready key

An EAR call is presented to an agent and the agent activates the NRD key. There are no idle agents available; therefore, the call is placed at the head of priority 1 (Time Overflow high call queue) in the ACD queue of the agent to which the call was presented. This ensures that the call is presented to the next available agent. EAR calls hear ringback when replaced in the queue.

Observe

If an EAR call is presented to a supervisor, and the supervisor activated the Observe key, call handling occurs as it is described in "Agent Observe (Advanced)" on page 38.

Originator display

The originator of a call receives a display update when the call is terminated or answered only if it is a local call or within an ISDN network. When the originator places a call, the originator's display shows the originally dialed number (a CDN if that was the originally dialed number).

Assuming the originator dials a CDN, when an agent answers the call, the agent's ACD DN appears. This ACD DN is the default ACD DN of the CDN or the number to which the default ACD DN diverted the call.

If the agent's ACD DN has a name defined, and the originator has CPND allowed class of service on the telephone, the name of the agent's ACD DN appears after the agent's ACD DN.

Only M2317, M2008, M2x16, and M2216 telephones can have CPND class of service and these are the only telephones that can display name information.

Automatic Overflow

When a call is placed in an ACD queue by EAR treatment for a CDN, the Overflow Threshold of that queue is enforced. When the threshold is exceeded, any Overflow destinations defined for the ACD DN are considered based on the existing rules for this feature.

CDNs are not allowed as Overflow destinations for Automatic Overflow.

Report Control

A report can be turned on or off for a CDN. However, if the CDN has the report control option off, ACD-D messages are not sent for calls into the CDN and ACD-C statistics are not printed for the CDN. Therefore, it is recommended that the same reporting option be set for a CDN and all ACD DNs to which that CDN could have calls queued, so that the reports are accurate.

Ringing Number Pickup

A telephone within the same call pickup group as an ACD agent is not allowed to pick up a ringing ACD call. This also applies to EAR calls.

Set Agent Priority (SAPA) /Select Agent Position (SAGP) commands

If, while an agent is presented with an EAR call, the supervisor issues a SAPA or SAGP command against the agent, call handling occurs normally.

Supervisor Control of Queue Size

When calls are placed in an ACD queue because of EAR operation, the call can receive busy tone treatment provided this feature is configured at the destination ACD DN and the Overflow conditions necessary to activate this feature are met. The decision to provide a busy tone depends on the origination party type, such as DID calls or CO calls.

Supervisor Control of Queue Size interacts with CDN's call ceiling function since both use thresholds to control queue size. If the call ceiling threshold is less than or equal to the Overflow Threshold used by Supervisor Control of Queue Size, EAR calls are not handled by Supervisor Control of Queue Size since the call ceiling is always reached before the Overflow Threshold. When the call ceiling is reached, any new EAR calls are not placed in the default ACD DN. Instead, they are handled by the call ceiling function, which could be busy if defined in the target ACD DN.

If the call ceiling for a CDN has not been reached, calls are allowed to go to the default ACD DN. When an EAR call reaches the default ACD DN, it is subject to treatment defined for that ACD DN (except for RAN and music), including Supervisor Control of Queue Size. If an EAR call reaches the ACD DN and the Supervisor Control of Queue Size is in force (for example, acting on incoming calls), the EAR call receives whatever treatment this feature applies to it.

Telset Messaging

Telset Messaging allows a caller to leave a message with the Message Center while in an ACD queue, without talking to an agent, using telephone-based menus. Telset Messaging is supported for EAR calls.

Time Overflow and Enhanced Overflow

When a call is placed in an ACD queue for a CDN, the call is allowed to Time Overflow by the Time Overflow Timer (TOFT) value (or timer values for Enhanced Overflow) defined for the ACD queue. CDNs are not allowed as Overflow destinations for Enhanced Overflow and Time Overflow.

Trunk Night Number

A CDN can be defined as a trunk night number.

Trunk Priority

Calls arriving by incoming trunks can have two levels of priority: high and none. If a call receives EAR treatment, it retains its trunk priority.

Operating parameters

Enhanced ACD Routing (EAR, package 214) requires ACD Basic features (ACD-A, package 45) and ACD Advanced features (ACD-B, package 41).

Enhanced Malicious Call Trace

During an established call, the user of a telephone with MCTA class of service can invoke a call trace against the DID call. The feature can be configured so that a special signal (hook flash and optional DTMF digit string) is sent to the Central office. The malicious call can be recorded using a recording trunk. The call trace record can be printed on any SDI port with MCT defined as a user, as well as on maintenance TTYs and in the history file.

The Malicious Call Trace (MCT) feature operates similarly to the ACD Emergency Key (EMR) feature when a recorder is on a conference call. The ACD telephone can activate both the malicious call trace and the EMR feature.

Enhanced Overflow (Advanced)

Enhanced Overflow (EOVF) enhances Time Overflow (TOF) by increasing the number of ACD DNs targeted by an overloaded source ACD DN from 6 to 100. With Enhanced Overflow (EOVF), any particular ACD DN configured as a target can accept calls from up to 100 other ACD DNs on the same switch.

Diverting calls from the source ACD DN to the appropriate target ACD DN is controlled by Routing Tables configured in Overlay 23. Up to 20 different targets can be defined for each ACD DN. A timer, from 0 to 1800 seconds, can also be defined for each source ACD DN.

Enhanced Overflow (EOVF) can define source and target queues for each ACD DN. EOVF sends incoming calls from an overloaded ACD DN to target ACD DNs (like Time Overflow) that are local to the source ACD DN.

EOVF does not support routing calls between source and target ACD DN over network services. It is, however, a prerequisite for network routing.

Routing tables

Routing Table information is used to determine when and where calls are going from the source to target ACD DNs. There are two types of Routing Tables: Day Tables and Night Tables. The Day Table is used when the source ACD DN is in Day Service. The Night Table is used when the source ACD DN is in Night Service.

Each Routing Table at the source holds up to 20 entries, each consisting of a target ACD DN, an associated timer, and status information for the target. Targets in each table are put in order by the system according to the target timer value, from the lowest value to the highest value. The timer associated with each target is used to decide when to issue a Call Request to that target. The table entries can be entered in any order, and the Table is automatically reordered when timer values are changed. If all the timer values are the same, the entries are listed in the order they are entered.

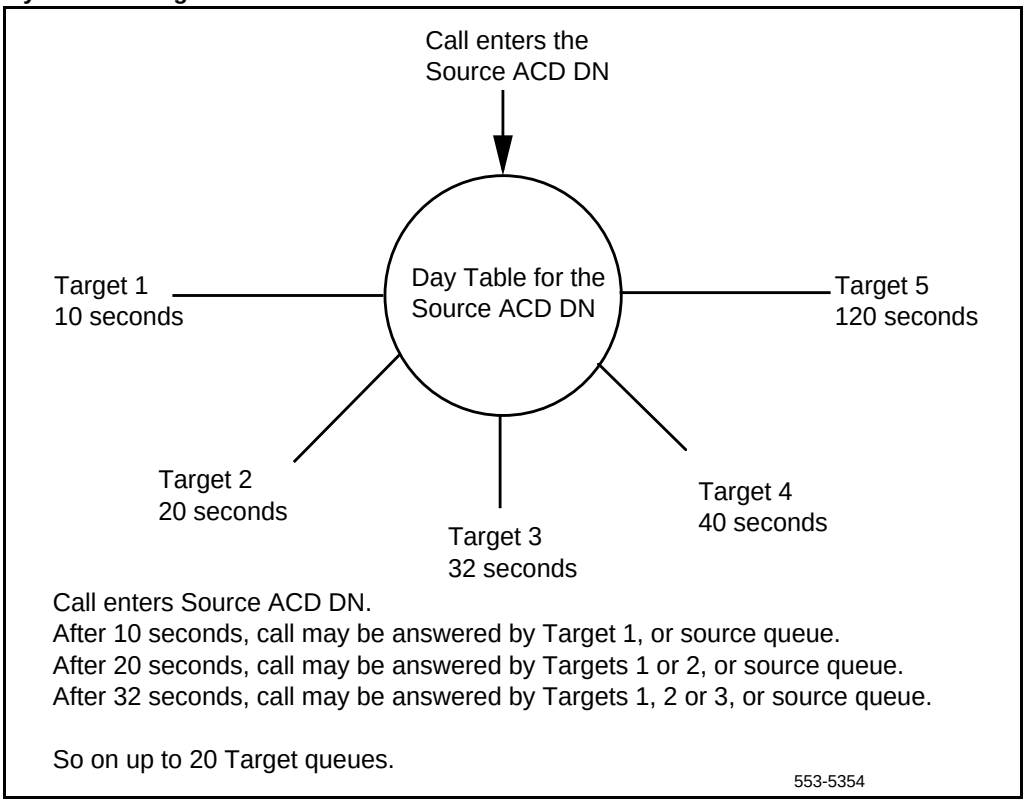
Day Table

A Day Table is used when the queue is open and operating normally. The targets defined in the table are independent of the Automatic Overflow (OVDN) targets. It is possible to have the same target defined for OVDN and EOVF, if defined in both the routing table and at OVDN in Overlay 23. If no Day Table is defined, TOF operates as usual, if allowed. Basic TOF does not operate when a Day Table is defined.

When the wait time exceeds the timer for the first target, the call is placed in the source TOF queue. The call can, at this time, be answered by agents in the source ACD DN or in Target 1. The system continues to track the wait time. When the timer for the second target expires, it is automatically included in the search. The call can now be answered by agents in the source ACD queue, the first target queue, or the second target queue. Targets continue to be added to the search as the timers expire. See Figure 8 for an example of the search patterns.

Calls do not overflow through the Day or Night Table to a Target DN in Night Service.

Figure 8
Day table routing


Call enters the
Source ACD DN
Day Table for the
Source ACD DN
Target 1
10 seconds
Target 2
20 seconds
Target 3
32 seconds
Target 4
40 seconds
Target 5
120 seconds
Call enters Source ACD DN.
After 10 seconds, call may be answered by Target 1, or source queue.
After 20 seconds, call may be answered by Targets 1 or 2, or source queue.
After 32 seconds, call may be answered by Targets 1, 2 or 3, or source queue.
So on up to 20 Target queues.
553-5354

Night Table

A Night Table operates when the source queue is in Night Service. When the Night Table is defined, Night Call Forward DNs cannot be configured. There is no priority or TOF in Night Service.

When a call is directed to the source ACD DN, the timer begins. The call rings until the first timer expires. After the timer expires, the calls can be answered by agents in Target 1. The system continues to track the wait time. When the timer for the second target expires, it is automatically included in the search. The call can now be answered by agents in the first target queue or the second target queue. Targets continue to be added to the search as the timers expire.

A Night RAN can be provided to callers while they are waiting.

Hold in Queue for Interactive Voice Response (Advanced)

Interactive Voice Response (IVR) units provide an automated method of providing and accepting information from a caller using computer-controlled voice playback to prompt for telephone touch-tone input. Hold in Queue for IVR enhances the existing CCR commands and options. After the IVR session, the IVR port transfers the call to the appropriate queue based on caller input to prompts. IVR capability can also be provided while a call is in an ACD queue. While receiving IVR treatment, the Hold in Queue for IVR feature enables the call to maintain its place in any ACD queue where it may reside.

To access this feature, a caller must reach a CDN in controlled mode. An IVR port can be a Meridian Mail agent, an IVMS agent, third-party vendor equipment appearing as a 500/2500 ACD agent telephone, or third-party vendor equipment appearing as an ACD SL-1 telephone.

Feature interactions

Not Ready

If a CCR call is presented to an IVR port and that port enters the Not Ready state, an attempt is made to terminate the call on another idle IVR port. If no idle IVR ports are available, the call is placed at the head of the priority 1 (time overflow high call queue) IVR queue. This ensures that the call is presented to the next available IVR port.

If the call receives Interruptible IVR treatment and is queued to ACD DNs when the call was presented to the IVR port, the call remains in those ACD queues. Therefore, when the call is reinserted in its IVR queue because of the IVR port entering the Not Ready state, the call is not requeued to its ACD queues, since it was never removed from those queues.

If the call receives Non-Interruptible IVR treatment, and the call is queued to ACD DNs when the call is presented to the IVR port, the call is removed from all of those queues. When the call is reinserted in its IVR queue because of the IVR port entering the Not Ready state, the call is replaced in all of its ACD queues in the same places it occupied before being removed for presentation to the IVR port.

If a CCR IVR call queued to an IVR queue or presented or connected to an IVR port is removed for presentation to a *live* agent, and the agent presses the Not Ready key, the CCR is not replaced in the IVR queue.

When a CCR call is requeued, the call receives ringback tone.

When a CCR call is presented to an IVR port, the call remains in its CDN (the CDN's queue length is not decremented).

Make Set Busy

If a CCR call is presented to an IVR port, and that port enters the Make Set Busy state, call handling occurs as described in "Not Ready" on page 168.

SAPA/SAGP commands

If a supervisor issues a SAPA or SAGP command against an IVR port while a CCR call is presented to it, the port enters the Not Ready state and the CCR call must be requeued. Requeuing the CCR call occurs as described in "Not Ready" on page 168.

Only ACD-D customer agents enter the Not Ready state immediately following the issuing of a SAPA or SAGP command if the agent is idle or has a ringing call. If the agent is busy on a call, the agent is placed in Not Ready when it disconnects from the active call.

Supervisor Control of Queue Size

If a Give IVR request is received from CCR and the IVR queue in which the call is placed has the Supervisor Control of Queue Size feature activated, the call is queued at that IVR queue regardless of its overflow conditions. CCR calls do not count toward the overflow condition of the IVR queue.

Overflow by Count

CCR calls queued to a given ACD/IVR queue through Queue To requests or Give IVR requests are considered virtual calls in those queues. Therefore, CCR calls queued to IVR queues do not count toward the IVR queue's size when calculating if the Overflow (OVTH) and Busy (BUSY) thresholds are exceeded. Also, CCR calls placed in IVR queues using the Give IVR command are not subject to the Overflow threshold (that is, even if the Overflow threshold is exceeded for a certain IVR queue, CCR calls can still be placed in that queue and does not overflow). Therefore a situation could arise where the combined number of CCR and non-CCR calls exceed the Overflow threshold. The CCR application controls the number of CCR calls placed in an IVR queue.

Network ACD (NACD)

NACD is not supported. CCR calls placed in an IVR queue with the Give IVR request are not subject to NACD rerouting.

Timed Overflow and Enhanced Overflow (TOF, EOVF)

TOF and EOVF are not supported. CCR calls placed in an IVR queue with the Give IVR request cannot overflow.

Enhanced Interflow

Enhanced Interflow is not supported. CCR calls placed in an IVR queue with the Give IVR request cannot interflow.

Calls Waiting Indication key (AWC key)

AWC key for IVR queues

AWC key for IVR queues is not supported.

AWC key for ACD queues

CCR calls in an ACD queue count as virtual calls. When the New Call Waiting option is enabled for an ACD queue, the number of CCR calls queued to the ACD DN shown by the ACD Calls Waiting Lamp (AWC) includes CCR calls.

A CCR call to hear non-interruptible IVR is removed from its ACD queues when presented to an IVR port and is returned to those queues upon completing IVR. While out of its ACD queues, the call does not show as part of the count of calls in queue, assuming the New Call Waiting option is enabled for the queues.

Display Waiting Calls (DWC key)

DWC key for IVR queues

When the DWC key is pressed to display the number of calls waiting in an IVR queue, CCR calls in that queue are counted for the display as shown:

aaa—bbb—ccc—dddd

Legend:

aaa	=	number of calls waiting in the queue (excludes CCR calls)
bbb	=	number of agent positions available
ccc	=	waiting time for the oldest call in the queue in seconds (includes CCR calls)
dddd	=	virtual calls including source TOF, Call Request Queue, and CCR calls

Calls queued to an IVR queue using the Give IVR request are considered virtual calls within the IVR queue and are counted in the ccc and dddd fields of the display. They also show up as part of the call count for the DWC lamp update if the New Call Waiting option is enabled for the IVR queue.

DWC key for ACD queues

A CCR call to hear non-interruptible IVR is removed from its ACD queues when presented to an IVR port and is returned to those queues upon completing IVR. While out of its ACD queues, the call does not show as part of the count of calls in queue in the dddd field of the DWC display, does not count as part of the oldest call in queue field (the ccc field), and does not show as part of the count of calls in queue for the DWC key lamp.

Since CCR calls queued using the Give IVR request are not removed from their CDNs when presented to IVR ports, a DWC key for a CDN reflects the number of CCR calls for that CDN still unanswered by live agents.

Non-interruptible CCR IVR calls are removed from queue when presented for two reasons. The first is to prevent call interruption if an agent becomes available to take the call. The second is to prevent confusion. For example, one CCR call is queued in an ACD DN.The call is connected to an IVR port to receive non-interruptible IVR treatment. If the call was not removed from queue, it appears to the agents and supervisors that a call is in queue and is ready to be answered. Since the CCR call is non-interruptible, agents are unable to answer the call.

Night Service

CCR calls cannot be placed in ACD or IVR queues in Night or Transition Modes. Calls are removed from an IVR queue when it goes into Night Service (Night Mode). The CCR application is notified of each CCR call removed so that CCR continues executing the call script. Because the CCR calls in queue are removed, they do not receive Night Call Forward or Night RAN treatments.

CCR calls presented to an IVR port or connected to IVR when an IVR queue enters Night Mode are not disconnected from their ports.

Removal of a CCR call from its IVR queue because the queue enters Night Mode does not affect its placement in any other ACD queue where it might reside.

When a call receives non-interruptible IVR, it is removed from any ACD queues where it resided upon presentation to an IVR port. If any ACD queue where the call has its place held enters Night Service during the IVR session, the call is not restored to that queue upon completing IVR.

Transition Mode via the NSVC key

If an IVR queue enters Transition Mode with the Night Service key, calls already in the queue remain, but no new calls can enter the queue. An IVR queue remains in Transition Mode until all of the calls that were in queue when Transition Mode was entered have been answered or abandoned, including CCR calls placed in the queue using the Give IVR command from the CCR application. When all calls are answered, the queue enters Night Mode.

If a queue in Transition Mode enters Night Mode before all eligible calls are answered (that is, the supervisor manually takes the queue from Transition Mode using the Night Service key, or all agents log out), call processing proceeds as described in “Night Service” on page 172.

Ongoing Status Display

When the IVR queue enters Transition Mode, the ongoing status display is the same as the current operation except for the new #VIRTUAL CALLS QD field. This field displays the number of CCR calls remaining to be answered (CCR calls are eligible to be answered when a queue is in Transition Mode). Calls in the Source TOF and Network queues are not shown in the new field because they are ineligible to be answered when the queue is in Transition Mode.

Display Waiting Calls key (DWC) When the IVR queue enters Transition mode, the DWC display shows the following information:

aaa—bbb—ccc—dddd

Legend:

aaa	=	number of calls waiting in the queue
bbb	=	number of agent positions available
ccc	=	waiting time for the oldest call in the queue
dddd	=	the sum of CCR calls

The aaa field displays the number of real calls waiting in the TOF, high, and non-priority queues. Since CCR calls are considered virtual calls, they are not included in the aaa field. However, since CCR calls are eligible to be answered when the ACD DN queue enters Transition Mode, they are reflected in the dddd field. Calls in the Source TOF and Network queues are not shown in the dddd field because they are ineligible to be answered when a queue is in Transition Mode. IVR calls are considered when determining the oldest call for the ccc field.

Night Mode via the NSVC key

When an IVR queue enters the Night Mode using the Night Service key, effects on CCR are as described in “Night Service” on page 172.

Ongoing Status Display

When the IVR queue enters Night Mode, the ongoing status display is the same as the current operation except for the new #VIRTUAL CALLS QD field. This field displays no calls because no calls are eligible for answering when the queue is in Night Mode.

Display Waiting Calls key (DWC)

When the IVR queue enters Night Mode, all call-related fields in the display are zero since no calls are eligible for answering when a queue is in Night Mode.

Originator Display

A call's originator receives a display update only when the call is terminated or answered if it is a local call or within an ISDN network. When the originator places a call, the originator's display shows the originally dialed number (a CDN if that was the original dialed number).

Note that only M2317, M2008, M2x16, and M2216 telephones can have CPND class of service. Only these telephones can display name information.

Originator Display for Local Call

Assume that as part of CCR treatment defined in a script for a CDN, when the call is answered by the IVR port, neither the IVR DN nor the IVR DN name (if defined) is shown. If the call is eventually answered by a live agent at an ACD DN, the agent's ACD DN and the name of the agent's ACD DN (if the name is defined and the originator has CPND allowed class of service) is shown on the originator display.

Digital Set Screens

Upon answer at an IVR port, digital telephone screens display as if the call were still ringing in the queue (that is, the screen displayed when the telephone is connected is *not* shown).

Originator Display for ISDN Call

The display update for an ISDN call depends on the Remove Capabilities (RCAP) specified in Overlay 17 for the primary D-channel. Acronyms input in response to the RCAP prompts in Overlay 17 identify ISDN-specific capabilities supported by the far-end node.

Table 6 indicates the information shown on the originator display, depending on what is specified for RCAP and if the call is answered by an IVR port or an ACD agent first. Assume that an ISDN call has dialed a CDN and is queued to an IVR queue (using a Give IVR request) and to an ACD DN (using a Queue To request). The information displayed includes the indicated DN and name for the DN (if one has been defined and the originator has CPND allowed class of service). Assume the Give IVR request is the first command executed for the call (when Give IVR is the first request executed for a call, the call receives ringback until it is answered).

Table 6
Originator display for ISDN call

	IVR port answers first	ACD agent answers first	ACD agent answers after IVR given
RCAP = ND1	CDN information given	ACD information given	CDN information was given when IVR port answered. ACD DN information is not given.
RCAP = ND2	As soon as ringback is given, CDN information is given. By the time the port answers, the display has already been updated. No additional information is given.	As soon as ringback is given, CDN information is given. By the time the agent answers, the display has already been updated. ACD DN information is not given.	As soon as ringback is given, CDN information is given. By the time the agent answers, the display has already been updated. ACD DN information is not given.

Call Transfer to Control Directory Number (CDN) - Completed during IVR

Assume that telephone A calls telephone B, telephone B initiates a transfer to a CDN, and part of the script treatment defined for the CDN involves a Give IVR request. If telephone B completes the transfer during the IVR session, the transferred call's (telephone A) treatments must start from the beginning of the Customer Control Route (CCR) script.

Conference to a CDN—Completing during IVR

Assume that telephone A calls telephone B and telephone B initiates a conference to a CDN. Also assume that part of the script treatment defined for the CDN involves a Give IVR request. If telephone B attempts to complete the conference during the IVR session, the attempt is not allowed. A conference cannot be completed until a third party answers. For this feature, an IVR port is not considered a valid third party to which a conference can be completed. While telephone B is connected to an IVR port, it is considered in queue. Telephone B can only complete the conference when a live agent answers.

Observe

Observing an IVR port is not supported.

500/2500 Line Disconnect

The 500/2500 Line Disconnect feature is supported.

AML Enhancements

Through AML 500/2500 telephones, this feature supports the invocation of basic telephone features such as release, conference, and transfer. If the AML Enhancements feature is used to control 500/2500 IVR ports, the AML Enhancements feature interacts with Hold in Queue for IVR. If a release for a 500/2500 IVR port is invoked, it is treated as a normal release—the IVR session is considered complete. Conferenced and transferred calls are treated as if they were invoked manually.

Feature packaging

Hold in Queue for IVR is package 218 (IVR). It also requires the following:

— ACD advanced features (ACD-B, package 45)

— Enhanced ACD Routing (EAR, package 214)

— Customer Controlled Routing (CCR, package 215)

— Meridian Mail, Release 8

In-Band ANI (IANI) (Basic)

In-Band ANI (IANI) allows a terminating ACD agent telephone to display the CLID number of a call coming in on a DID or Tie trunk.

When a DID or Tie trunk originates a call, the system checks to see if it belongs to an In-Band ANI (IANI) trunk group. If it does, the system collects the ten ANI digits and displays them on an auto-terminating ACD agent's digit display telephone. The number is not displayed until all ten digits are received.

The desired auto-terminating ACD DN is specified at the trunk level (Overlay 14). The auto-terminating ACD DN can also serve as a standard ACD DN, but ANI numbers are not displayed unless the incoming call is on an IANI trunk.

If an auto-terminating ACD DN is not available, the call intercepts to the attendant. The attendant can route the call to an ACD DN, and the ANI number is displayed on that ACD telephone display. The ANI number is displayed on both the attendant console and the terminating ACD DN agent's digit display.

The following section describes the interactions between ACD and IANI. For a complete description of the IANI feature, see *Administration* (553-3001-311)

Feature interactions (IANI)

ACD Answer/Call Supervisor/Emergency

If the agent presses the Supervisor key (ASP) or the Emergency key (EMR), the digit display is cleared when the supervisor answers the call. The display remains clear while the supervisor is active with the call. If the supervisor releases the call first, the ANI number reappears on the agent's telephone display.

ACD Interflow (not basic)

If an IANI call interflows to another predesignated local ACD DN, the ANI number is displayed on the overflow agent's digit display. The source ACD DN is displayed following the ANI number.

ACD Night Call Forward

If an ANI call is forwarded to an ACD DN, the ANI number is displayed on the ACD agent telephone.

ACD Overflow by Count (not basic)

If an IANI call overflows to another ACD DN, the ANI number is displayed on the overflow agent's digit display. The source ACD DN is displayed following the ANI number.

Activity code

If the ACNT key is activated during an IANI call, the display is cleared. Once the activity code has been entered and the ACNT key pressed again, the ANI number reappears on the agent's display.

Attendant Recall

If an ACD agent is active on an IANI call and activates the Attendant Recall key (ARC) to call the attendant, the agent's display shows the attendant number when the attendant answers the call. The ANI number reappears when the attendant releases the call.

Call Consultation

If the agent is active on an IANI call and presses the TRN key for call consultation, the display is cleared. When the agent restores the IANI call, the ANI number reappears.

Call Park

If an agent parks an IANI call and it times out and recalls back to the agent, the ANI number is not displayed.

Call Transfer

If an agent transfers an IANI call to another ACD DN, the ANI number is displayed on the terminating telephone display.

Conference

If an agent activates the conference feature while active on an IANI call, the display is cleared. The display remains clear while the conference call is active. If the conferenced party releases first, the ANI number appears on the agent's display.

Display key (DSP)

If the agent is active on an IANI call and presses the DSP key to display another key feature, the ANI number do not reappear when the DSP function is complete.

Hold

If an ACD agent places an IANI call on hold, the ANI number reappears when the call is restored.

NACD (not basic)

If an IANI call diverts to a target node as a result of NACD, the ANI number appears at the target node.

Time and Date

If the agent presses the Time and Date (TAD) key while on an IANI call, the time and date remains displayed throughout the call. To display the ANI number again, place the call on hold and retrieve it. The ANI number reappears.

Time overflow (not basic)

If an ACD agent receives an IANI call due to time overflow, the ANI number is displayed. The source ACD DN follows the ANI number on the display.

Virtual agents

Virtual agents are not supported for IANI calls.

Incoming Trunk restrictions (Basic)

Abandoned ACD calls are removed from both incoming call queues and Recorded Announcements (RAN) unless the incoming trunk used for the call is a loop start trunk. Far-end disconnect on loop start trunks is only detected during ringing. If a call is routed to a Recorded Announcement (RAN), answer supervision is returned to the trunk and ringing is stopped. On RAN completion, the call remains in the queue on Silent Hold unless Music On Hold has been specified for the ACD DN.

> ***Note:*** Trunks without disconnect supervision *should not* be used for ACD systems. Incoming calls on trunks that do not provide for disconnect supervision are not released by the system when the agent ends a call.

INIT ACD Queue Call Restore

The INIT ACD Queue Call Restore (ACDR) feature enables the Meridian 1 to restore up to 1000 calls, either transient ACD calls in ACD queues or calls which are held by a controlled DN, when the system initializes. Calls not residing in ACD queues during system initialization are not recovered by this feature.

During system initialization, each queued ACD call is scanned and classified as restorable or nonrestorable. Essential data associated with each restorable call is saved. Nonrestorable calls are skipped. This scan-and-copy routine continues until either the 1000 call limit is reached or all queued calls are scanned. When the 1000 call limit has been reached, a system message appears.

All restored calls are presented again as new incoming calls that originated during system initialization. The original start time of a restored call is not recoverable. Call history information is also not recoverable. For example, it cannot be determined that a restored call had been call parked or modified prior to initialization.

ACD queue calls which received ringback, music, or a recorded announcement prior to system initialization receive silence during system initialization. Ringback or a recorded announcement is given again after the call is restored as a new call. Subsequent call treatment continues as expected.

Operating parameters

The INIT ACD Queue Call Restore (ACDR) feature is supported on the following Meridian 1 Systems: 11C, 51C, 61C, 81 and 81C. ACDR requires a minimum of 16K of unprotected memory.

To be restorable, a queued ACD call must be trunk originated. However, for non-UIPE PRI trunks, only active calls are restored. Virtual ACD calls such as network queue calls are not restored by ACDR. Restorable calls which are aborted by the caller during a system initialization are forwarded to an ACD DN, where they can then be dropped by an agent.

If the Application Module Link (AML) to Meridian Mail is not available during system initialization, restorable calls directed to the Meridian Mail ACD DN receive night treatment. Calls restored to a Controlled DN are redirected to the default ACD DN and receive that DN’s treatment.

Restorable calls originally in the Time Overflow (TOF) queue are reseated in either the High Priority (HI) queue or the Low Priority (LO) queue on the basis of trunk priority. Therefore, restored calls might not occupy the same priority queues that they did prior to system initialization.

ACDR does not recover certain types of call information. For example, Automatic Number Identification (ANI), Calling Line Identification (CLID), Feature Group D ANI, Dialed Number Identification Service (DNIS), Network Calling Party Name Display (NCPND) and redirection information is not recovered.

Ringback after Call Restoration

To provide ringback tone to a call, the Meridian 1 uses either Tone and Digit Switch (TDS) or Extended Conference TDS (XCT) cards. Calls restored on a Meridian 1 equipped with a TDS card receive ringback immediately following the completion of system initialization. Calls restored on a Meridian 1 equipped with an XCT card and without a TDS card receive silence until the XCT parameter download is completed. An XCT parameter download is triggered by system initialization.

There is one exception to this rule. If a RAN is available before XCT is in service, RAN is given according to the customer's configuration. If a RAN is not available and XCT is not in service, the caller receives silence.

ACDR provides ringback tone to a restored call after XCT parameter download if all of the following conditions are met:

— the call remains in the ACD queue

— RAN/Music/Ringback is not in progress

— RAN treatment has not been given after the call is restored

Feature interactions

ACD-C Management Reports

No statistics are kept for reporting periods in which a system initialization has taken place.

AML/CSL (ISDN/AP)

Restored calls supply no DNIS, CLID, Network Call ID, or ANI information for inclusion in AML messages.

ACD Call Priority

ACD priority calls lose their call priority when the system initializes. ACDR restores these calls as new calls.

Automatic Number Identification (ANI)

Restored calls do not retain ANI information, unless the call was an incoming call on an M911 trunk.

Call Detail Recording (CDR)

The CDR record does not include ANI, CLID, NCPND and DNIS information lost in the course of restoring a call. When a system initialization takes place, the start time for the CDR record is the time of call restoration. Consequently, the duration for an ACD queue call is calculated from the time of call restoration.

Call ID

All restored calls receive new call IDs.

Call Park

Parked calls are restored by ACDR as new incoming calls to the ACD DN.

Call Redirection
Calling Line ID (CLID)
Dialed Number Identification Service (DNIS)
Digit Display
Feature Group D
Network Attendant Services (NAS)
Network Call ID
Network Call Redirection
Network Call Trace and Call ID Diagnostic
Network Calling Party Name Display (NCPND)

Call information associated with these features is lost after system initialization and call restoration.

Customer Controlled Routing (CCR)

Nortel Networks Symposium Call Center

Calls restored to a Controlled DN are redirected to the default ACD DN and receive that DN's treatment. Auxiliary processor (for example, CCR) links act as though they are unavailable during initialization.

DASS/DPNSS/APNSS

ACDR does not restore network information such as Originating Line Identities (OLI), Called Line Identification (CLI), Calling Line Category (CLC), and Trunk Identity (TID).

Enhanced ACD Routing

The call control of a restored CCR call shifts from the CCR application to the Meridian 1. When a CCR call reverts to default, it receives Enhanced ACD Routing treatment for the CDN in which it resides.

Enhanced Network Routing

Network ACD (NACD)

A virtual call queued at a target switch is not restored if the target switch initializes. However, the associated actual queued call receives the treatment programmed for the source switch.

Enhanced Overflow

A call request queued at a target switch is not restored. The associated actual queued call at the source switch is restored as a new call.

Hold in Queue for Interactive Voice Response (IVR)

A Customer Controlled Routing (CCR) IVR call awaiting connection to an IVR at the time of system initialization is restored by ACDR. A restored call of this type reverts to the default ACD DN of the corresponding CDN.

Integrated Service Access (ISA) Enhancement

For each ISA call restored by ACDR, a counter is incremented to record the number of ISA calls on the service route.

Meridian 911 Enhancements: Call Abandon

ACDR restores M911 Abandoned calls waiting in either ACD or CDN queues. M911 ANI information is restored on the set display.

Meridian MAX

For Meridian MAX, messages on restored calls are not balanced.

Music on Delay

Calls do not receive Music on Delay when system initialization takes place.

Network Message Services

When system initialization is completed and an AML link is not available, a restored call to a Meridian Mail ACD DN receives night treatment. If system initialization is completed and an AML link is available, a restored call to a Meridian Mail ACD DN does not receive night treatment. Indirect calls to Network Message Services are restored as direct calls.

Primary Rate Access (PRA)

PRA D channels are released during system initialization and reestablished after initialization is complete. Transient calls on the D channel are not restored. Active calls (calls which are answered by a live agent or with RAN treatment) on a PRA D channel are restored.

Trunk Anti-Tromboning

Trunk anti-tromboning is not supported on a call restored by ACDR.

Universal ISDN protocol engine (UIPE)

ACDR introduces a new capability called call synchronization. Call synchronization is the reconciliation of active and transient call sets between the Meridian 1 and the Universal ISDN protocol engine (UIPE) loadware application. In the call synchronization process, the Meridian 1 sends INIT queue call restored information, in the form of “call rebuild” messages, to UIPE layer 3 loadware located on the Multi-purpose Serial Data Link / Multi-purpose ISDN Signalling Processor (MSDL/MISP) card.

Prior to ACDR, the UIPE loadware application could only restore active calls. When call synchronization operations are complete, identical sets of active (answered by a live agent or with RAN treatment) and transient calls are retained by the Meridian 1 and UIPE application loadware.

UIPE loadware sets a timer running when initialization starts. If UIPE loadware does not receive all of the call rebuild messages from the Meridian 1 before the timer expires, the UIPE loadware restores only active calls. Transient calls are dropped.

Virtual Network Services (VNS)

VNS calls which have not reached active state are not restorable.

Feature packaging

INIT ACD Queue Call Restore requires Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

No administration changes are required to configure this feature.

Feature operation

No specific operating procedures are required to use this feature.

Multiple Queue Assignment (MQA)

The Multiple Queue Assignment (MQA) feature enhances the capabilities of Automatic Call Distribution (ACD). This enhancement allows agents to service up to five ACD directory numbers simultaneously and permits agent roaming so agents have the flexibility to use any ACD agent position equipped with an eligible Meridian Set with Special Application Display.

The agent's Individual Directory Number (IDN) can be automatically forwarded to the agent regardless of what set they use to login.

MQA allows Call Center customers to achieve a high level of control over the manner in which agents are assigned to calls. This capability gives Call Centre managers the opportunity to direct calls to agents whose skills match the needs of the caller or a specific queue. This functionality allows ACD agents to service one or more queues depending on their skills. Each queue is considered an agent skill thus making this feature a "skills based routing" product.

This feature also allows ACD agents to assign a priority value to queues as well as a supervisor to whom they are to report. If the multiple queues have calls waiting, the agent services the queue for which their assigned priority is the highest. If they are servicing multiple queues with the same assigned priority or are not using the Priority Agent feature, queues are serviced on a round-robin basis.

Operating parameters

Multiple Queue Assignment is supported on the Meridian 1 Options 11C, 51C, 61C, 81 and 81C systems. This feature requires X11 Release 21 and Meridian MAX Release 7.

It is highly recommended that configuration parameters (for example, Observe Tone, Call Forcing, Flexible Call Forcing Timer) are set similarly for all groups of ACD queues so that calls are presented to agents in a uniform manner.

The MQA feature is only supported on the following Meridian 1 proprietary sets with displays: M2008, M2216 and M2616. These displays must contain the "special applications firmware" shipped standard with these sets since Release 15. The NT2K25xx and NT2K28xx are the displays containing this "special applications firmware." These sets can be used in the MQA setting without displays; however, Multiple Queue Assignment does not apply.

The MQA priority option in Overlay 23 must be provisioned and priority agent package 116 must be equipped if agents are to enter queue priorities at login.

The Maximum Number of Agent Positions (MAXP) prompt in Overlay 23 defines the maximum number of agents that can login to an ACD group at any one time. MAXP must be set at a high enough value to account for the secondary agents that may be servicing that ACD group.

The assignment of an agent to an ACD group is not removed when an agent logs out of a queue. It is removed only when the agent logs into a new queue.

For agents to change queues that they are servicing, they must log out and log back in to a different set of queues. Supervisors can change the queues an agent is servicing, but they cannot add or delete queues. This is done through configuration control, and the agent does not have to log out for these changes to take effect.

ACD C Reports are not supported and should not be configured for any customer when the MQA feature is equipped.

Only the primary ACD DN defined on an agent set is saved during a Data Dump and thus preserved after a system reload (sysload). Any other ACD DNs and associated priority values are lost if a sysload occurs.

MQA provides an option for the automatic forwarding of agents' IDN calls to any MQA-eligible agent position they may choose to use for login, but no Message Waiting Lamp is provided for the agent at the set.

For automatic forwarding of calls, if the Single Call Ringing (SCR), Single Call Non-Ringing (SCN), Multiple Call Ringing (MCR), or Multiple Call Non-Ringing (MCN) key is defined on a multiple appearance DN (MADN), calls forwarded to this DN rings on all DN appearances as per normal MADN operation.

In order for agents to have automatic forwarding of their IDN calls, they must have an SCR, SCN, MCR, or MCN key defined on the set used to login. Calls are forwarded to the DN assigned to the lowest key number on the agent's set. Without one of these keys, no automatic forwarding takes place.

When MQA is enabled all agents using telsets eligible for MQA login are subject to the required change in MQA login process.

Certain types of ACD DNs such as CDNs and Meridian Mail ACD-DNs cannot be specified at login by agents using MQA. If these types are specified at login, they are rejected by the system.

If attempts are made to disable the Report Option in an ACD data block while agents are logged in with the MQA package equipped, the operation is blocked and the system issues an error message at the Meridian 1 maintenance console.

"0" (zero) cannot be specified as an ACD DN by agents during login because it is reserved for deleting previous ACD-DNs, Priorities or Supervisors.

Such keys as Speed Call and Autodial keys, are not supported for use as short cut methods during the login process.

Unless modified prior to use with MQA, it is recommended that Predictive Dialing applications not be used with MQA agents.

MQA agents cannot be reassigned to ACD DN's with reports turned off via a Load Management Select Agent Position Assignment (SAPA) command. If an attempt is made to reassign an agent to an ACD DN with reports turned off, an error message is printed and the reassignment does not occur.

Feature interactions

ACD Set Keys

ACD Answer Agent
ACD Supervisor Call

The operation of these keys are independent of calls being taken and operates similarly whether or not an agent is serving one or multiple queues.

Activity Code Key

If ACD sets are configured with an Activity Code key, the agents can enter an activity code based on the ACD DN or CPND name that is displayed for each MQA call, identifying the queue that they are currently serving.

Agent Key

An ACD agent can reference a Supervisor via the Position ID in the agent's Supervisor's ID (SPID) field. A Supervisor can reference an agent via the Position ID on one of their AGT keys. However, they must reference each other.

If the Supervisor Position ID assignment of an agent has changed at login, then the Supervisor Position ID specified appears in the SPID field for that agent. If the agent's previous Supervisor had an AGT key defined, the agent is no longer associated with that key.

Agent Waiting Calls Key

The lamp associated with the Agent Waiting Calls (AWC) key does not change status based on call waiting in multiple queues. The lamp reflects the status of the queue being served, queue most recently served if an agent is idle or the Primary queue assigned to the set if an agent's set is logged out.

Emergency Key
Answer Emergency Key

When an agent presses their Emergency Key (EMR) they are immediately connected to the Supervisor and the call is terminated at the Supervisor's set on the Answer Emergency Key (AMG). The Supervisor called is always the one whose Supervisor Position ID is assigned to the ACD set.

Call Hold Key

If the hold call is used before an agent has completed the login process, then the incalls key darkens and the login attempted is aborted.

Display Key

If the Display Key is used to view information defined on the ACD DN key of an agent serving multiple queues, then the ACD DN displayed is the current queue being served if the agent is active on a call. The last queue is served if the agent is not serving an ACD call or the Primary ACD DN if the agent is logged out.

Display Agent Key

MQA does not impact the operation of this key since the queue agents are servicing is relevant to the information displayed on this key.

Display Waiting Calls Key

MQA changes the operation of this key. Instead of showing statistics for one particular queue, the Display Waiting Calls key steps through the queue statistics for each queue the agent is logged into at approximately two second intervals. For supervisors, the data for one queue associated with the key is still displayed, since supervisors can have multiple Display Waiting Calls (DWC) Keys for multiple queues.

Ring Agent Key

The operation of MQA is independent of any calls being processed by an agent. If an agent is serving one or multiple queues it does not impact the operation of the Ring Agent Key.

Not Ready Key

When an agent is ready to service calls they deactivate the Not Ready Key. The next queue served may not necessarily be the same queue prior to activating the Not Ready Key.

Call Detail Recording

The ACD DN used in CDR records for a given agent can change depending on which queue the an agent is servicing.

Call Forcing

Agents serving multiple queues are governed by the setting of the Call Forcing option depending on which queue is being served.

If using Flexible Call Force Time (FCFT) option, the value of the FCFT from the previously served queue are used.

It is possible that an agent may be serving multiple queues with different Call Forcing definitions. It is recommended that these options be set similarly for all groups of ACD queues that individual agents may be serving simultaneously.

Call Party Name Display

When an ACD agent makes an outgoing call (for example, Conference, Transfer, and Secondary DN) the Calling Line Identification of the agent depends on the key "0" ACD DN definition. This changes depending on which queue the agent is serving or has served. The CLID can change for an agent as the queues they serve change.

Customer Controlled Routing

The Customer Controlled Routing (CCR) receives statistics from the Meridian 1 system and uses this information to make decisions regarding the number of idle agents in a queue and the number of logged in agents in a queue. CCR users must realize that since agents can be available in multiple queues, the total number of available agents as viewed by CCR may not match the actual number. Thus, the CCR script intrinsics *idle_agents* and *logged_agents* must be interpreted differently depending on how many queues agents service.

Meridian Link (Prior to X11 Release 24.2x)

Meridian Link Set Feature Invocation (SFI) messages can be used to login and logout ACD agent sets. The SFI login message can be used in an MQA environment; however, the SFI login message can only be used to log an agent into one "default" queue.

If an agent manually logs into a queue and subsequent Meridian Link messages containing an ACD-DN are generated on behalf of the agent (for example, PCI, USM, and SFM messages), the ACD-DN reflects the queue being served. If no ACD call is active, the ACD-DN reflects the queue most recently serviced.

MQA Enhancement with Meridian Link (X11 Release 24.2x)

With X11 Release 24.2x, an enhancement to the MQA feature allows the Meridian Link SFI login message to perform "default" login. This is equivalent to an agent logging in by dialing: **Agent ID # #**.

An agent can manually login to multiple queues at the start of each shift from their set. When the agent logs out, they can use Meridian Link-enabled computer applications to relog themselves into the same queue assignments. If an agent logs into multiple queues and then logs out of their set, the next agent who logs into that set does not need to re-enter the multiple queues if the same queues are desired. They are automatically logged into the same queues as the previous user of the set. The priorities of the queues remain the same. The MQA Enhancement functionality is the same regardless of the agent ID that is logged into the set.

As an example, Agent X logs into ACD queues A and B from set 1. Agent X then presses the MSB key (or uses a computer) to log out. Agent X (or a different agent: Agent Y) then uses a computer application to login to set 1. Meridian Link sends an SFI login message to the Meridian 1. Agent X (or Y) is automatically logged into ACD queues A and B.

“INVALID ENTRY” is displayed on the set’s display screen and in the SFI LOGIN response message if any of the following occur:

— The SFI_LOGIN request message from the application has an invalid agent ID.

— Another agent is presently logged in.

— The agent is presently logged in and attempts to log in again.

The ACD queues being serviced, queue priorities, and the supervisor for the position cannot be changed using the Meridian Link SFI message. These can only be changed by the agent logging out and then going through a new login sequence through the telset.

The MQA Enhancement feature does not change any Meridian Link messages, nor does it require changes to computer applications. This feature does not allow CTI applications to log agents into multiple queues.

Night Service

When agents in a particular queue logout, the queue goes into Night Service. With MQA activated, agents can service up to five queues. If an agent is serving multiple queues and logs out, any queues for which they are the last active agent go into Night Service.

Network ACD

MQA impacts the choice of agents to service calls. Network ACD calls are treated the same in the MQA environment as a single queue environment. If an attempt is made to route a call across the network to an ACD queue being served by agents assigned to multiple queues, then the call is presented to the first available agent in that queue.

Observe

Agents serving multiple queues are governed by the Observe Tone (OBTN) setting for the queue they are currently serving. Thus, it is possible that an agent may be serving multiple queues with different OBTN definitions. For this reason, it is recommended that the Observe Tone option is set similarly for all groups of ACD queues that agents may be servicing simultaneously.

Supervisor Control of Night Service

If an agent is serving multiple queues and the Supervisor puts a queue into Night Service, the agent does not receive calls from this queue unless the queue goes through Transition mode initially.

Feature packaging

The Multiple Queue Assignment is package 297 and requires Meridian Modular Sets package 170 and Digital Sets package 88.

If the option to permit ACD agents to enter Priorities at login is desired, Priority Agent Package 116 must be equipped.

If automatic forwarding of agents' non-ACD calls is desired, Phantom TN Package 254 must be equipped.

Feature implementation

Since MQA requires MAX, MQA parameters are configured in Overlay 23 under ADS data administration.

Note: HSL must be disabled before changing MQA-related prompts.

Only one Meridian MAX customer is allowed per system, and that customer must use the Agent ID login mode.

LD 48 – Disable the High Speed Link.

Command	Description
DIS SDI HIGH	Disable the SDI port for high-speed link.
DIS HSL	Disable the high-speed link.

LD 23 – Enable Multiple Queue Assignment.

Prompt	Response	Comment
REQ:	NEW CHG	New or Change.
TYPE:	ADS	Auxiliary Data System data block.
CUST	xx	Customer number.
AID	YES	Do the ACD agents on this customer operate in Agent ID mode
- IDLB	(0001) - 9999	Agent ID Lower Bound
- IDUB	IDLB - (9999)	Agent ID Upper Bound
- LOG	1-1000	Maximum # of agents that can be logged in at any one time
MQA	YES	MQA logins allowed for agents serving this customer MQA is only prompted if AID = YES and the MQA package 297 is equipped.
- MQAS	YES	Agents allowed to enter Supervisor ID at login
- MQAP	YES	Agents allowed to enter Priority values at login Priority Agent package 116 must be equipped
- MQCF	YES	Allow Automatic Call Forwarding of Phantom TN to agent sets at login. Phantom TN package 254 must be equipped.
- MCFD	DDD	0, 1, 2 or 3 digit attached to Agent IDs.This associates Phantom TNs to specific ACD call agents. X= 0 digits.

Note: The RPRT prompt must be enabled for all queues served by an agent to have MAX messages sent.

LD 23 – Set MAXP value.

Prompt	Response	Comment
REQ:	CHG	Change existing data
TYPE:	ACD	Automatic Call Distribution data block
CUST	xx	Customer number
ACDN	x...x	ACD Directory Number
...		
MAXP	1-1000	Maximum Number of Agent Positions Ensure that MAXP is assigned a high enough value to account for secondary agents.
...		

LD 48 – Enable the high-speed link.

Command	Description
ENL SDI HIGH	Enable SDI port for high-speed link
ENL HSL	Enable the high-speed link

Feature operation

Login Procedure

The ACD agent login procedure using Agent ID mode without Multiple Queue Assignment requires the agent to press the Incalls key and enter their Agent ID digits. If these digits are valid, the agent is logged in and services the ACD DN defined on the Incalls key. With Multiple Queue Assignment, an agent can serve up to five ACD queues simultaneously and has the opportunity to specify those queues at login time.

Where previously an agent would specify their Agent ID, they must now specify their Agent ID as well as all ACD DNs they wish to service. Additionally, there are two options under the ADS administration prompts in Overlay 23 which, when enabled, allow agents to specify at login individual Priority levels for each ACD DN they are to service as well as the Supervisor ID of the Supervisor to whom they are to report.

There is an option available to have an agent's IDN calls automatically forwarded to whatever MQA set they log in to. To have this functionality requires the Phantom TN package (option 254) to be equipped on the PBX, and the prompt MQCF must be enabled in Overlay 23.

Login Without Priorities or Supervisor ID

To login using the MQA feature, agents must enter their agent ID digits and all the ACD DNs (to a maximum of five) they want to service. Each field must be separated by an octothorpe or "#". The entire digit string must be terminated with another octothorpe or "#" to indicate to the system that all the desired ACD DNs have been entered. The following string of characters is an example of what the agent must enter for MQA login with no Priorities or Supervisor ID:

Agent ID#ACD DN 1#ACD DN 2#ACD DN 3#ACD DN 4#ACD DN 5##

An Agent often services the same ACD queues time after time. In such cases, the ACD DNs (up to five) do not need to be re-entered. When no ACD DNs are specified during login, the ones assigned to the set from the previous login are used. Enter the agent ID followed by a double # sign. If the agent ID is "1234", the login would be "1234##".

Login in With Priorities and Supervisor IDs

The standard login process is the same, however the agent must specify priority values and a supervisor ID along with the ACD DNs. A priority value can be specified for each ACD DN entered at login and the priority value to be associated with a particular ACD DN must appear immediately after that ACD DN, with the field separated by an octothorpe or "#". Priorities can only be specified by agents at login if the MQAP prompt in Overlay 23 is enabled. Supervisors can only be specified by agents at login if the MQA prompt in Overlay 23 is enabled.

The priority field for an ACD DN can be left blank by entering "##" with no Priority value in the field. If the priority field is left blank, the Priority value from the set data block (the Priority value is entered at the PRI prompt in Overlay 11) are substituted.

Entering a Supervisor ID at login is optional. The Supervisor ID field can be left blank by entering a "##" with no Supervisor in the field. If the field is left blank, the Supervisor ID defined on the set previously are used. However, if the Supervisor ID field is left blank, you cannot enter 0 to remove the Supervisor ID value. Instead, you must login again and reenter the Supervisor ID.

The following string of characters is an example of what the agent must enter for MQA login with Priorities and Supervisor ID:

Agent ID#SUPV ID#ACD DN 1#PRI 1#ACD DN 2#PRI 2 #ACD DN3#3PRI 3#ACD DN 4PRI 4#ACD DN 5#PRI 5##

The following string of characters is an example of what the supervisor must enter for MQA login with Priorities and Supervisor ID. Note that supervisors need not enter their supervisor ID:

Agent ID#ACD DN 1#PRI 1#ACD DN 2#PRI 2 #ACD DN3#3PRI 3#ACD DN 4PRI 4#ACD DN 5#PRI 5##

If an invalid entry is made for the ACD DN, Supervisor ID or Priority, the agent is notified immediately on the display. The agent may then reenter the field. An valid entry which has been accepted can be removed by entering a 0 followed by a "#". The field can then be re-entered. The removed entry displayed is proceeded by an "X". The agent ID cannot be deleted during login.

Music Broadcast

The Release 23 Music Broadcast feature expands existing Music functionality.

The Music Broadcast feature allows the Meridian 1 system to broadcast music to several parties at one time via a single Music Broadcast trunk port. This feature supports Music on Hold (MOH). With Music Broadcast, Music is delivered via X11 software; hence, Conference hardware is not required. It is not necessary to share Conference resources with Conference features, such as Conference and Group Call. Music Broadcast supports both intra-group and inter-group music. Therefore, a Music trunk in each network group is not required.

A Music Broadcast call consists of several one-way connections from the Music trunk to each caller. The Music Broadcast feature reduces the number of timeslots required for callers to listen to music while on call hold or call waiting in an Automatic Call Distribution (ACD) environment. One timeslot is required to enable Music trunk broadcasts. In addition, each party listening to music through the broadcasting music trunk requires one broadcast connection. The extra speech path resources that are needed for the existing Conference-based Music are unnecessary for Music Broadcast.

The Music Broadcast feature also introduces the following enhancements:

— Incremental Software Management limit

— Traffic Study Option

For further information on the Music Broadcast feature, please refer to *Features and Services* (553-3001-306) Music On Delay (Advanced)

Music is heard by callers in an ACD queue who are not hearing the Recorded Announcement (RAN) or ringback tone, but are waiting in the queue for service. Music On Delay is triggered by the end of each RAN. The music continues until a subsequent RAN is provided, or the call is either answered or abandoned.

ACD calls do not receive Music On Delay if RAN is not also specified. Music On Delay is provided after the first or second RAN, and between subsequent RANs, until the call is answered or abandoned.

The music for Music On Delay is obtained from a music source by a music trunk specified in Service Change and connected to a conference circuit card. Callers experiencing ACD delay are bridged into the conference circuit by a listen-only path. Each music trunk is assigned to a specific conference loop (not necessarily dedicated to music), and each ACD DN can be programmed for a different music source (if available).

Music On Hold (Basic)

Music On Hold (MUS) is provided to trunks specified for music to terminating calls that have been placed on hold.

The music is taken from a music source by a music trunk specified in Service Change and connected to a conference loop. Callers put on hold are bridged into the conference card by software through a listen-only path. Each music trunk is assigned to a specific conference loop, not necessarily dedicated to music. Each ACD DN can be programmed for a different music source. See the *Administration* (553-3001-311) for Service Change information.

Night Call Forward (NCFW) (Basic)

The Night Call Forward feature allows calls to be forwarded out of the ACD queue to another destination. The Night Call Forward (NCFW) feature holds the call while verifying that the destination is available. If the destination is busy, the call is returned to the ACD queue where it originated. The system attempts to connect the call to the NCFW number until the call is either answered or abandoned.

If the source queue is in Night Mode and the Night DN is another ACD DN, the call can Night Call Forward. The call is forwarded if *any* of the following states exist for the Destination ACD DN:

— It has agents available.

— It is not in Interflow state.

— It is an available DN for NCFW.

The caller hears ringback when held at the queue awaiting a free trunk or DN. Table 7 defines the treatments for NCFW destinations that are available for incoming calls based on the call type.

Table 7
NCFW treatment by call type

		Call Type (Origin)			
		Telephone	**Attendant**	**CO Trunk**	**DID/Tie Trunks**
NCFW Destination	**Telephone**	Busy Tone	Re-Link to ACD queue	Re-Link to ACD queue	Re-Link unless eligible for CCBQ, CBQCM, or OHQ
	Attendant	Busy Tone	Overflow Tone	Re-Link to ACD queue	Re-Link unless eligible for CCBQ, CBQCM, or OHQ
	ACD DN	Re-Link to ACD queue	Re-Link to ACD queue	Re-Link to ACD queue	Re-Link to ACD queue
	Trk ACOD	Busy Tone	Re-Link	Re-Link	Re-Link unless eligible for CCBQ, CBQCM, or OHQ
	NARS	Busy Tone	Re-Link	Re-Link	Re-Link unless eligible for CCBQ, CBQCM, or OHQ
	Invalid DN	Overflow Tone	Overflow Tone	Overflow Tone	Overflow Tone is returned

Note: Calls cannot be re-linked to the ACD queue if the originator of the call is eligible for Coordinated Call Back Queuing (CCBQ), Call Back Queuing to Conventional Main (CBQCM), or Off-Hook Queue (OHQ) tones. Also, calls cannot be returned to the ACD queue if the originator is an internal station and the NCFW destination is outside the ACD environment.

Feature interactions (NCFW)

ACD Ring Again

Internal telephones with Ring Again applied against the ACD queue are not allowed to Night Call Forward (NCFW). However, if the NCFW destination is an ACD DN with ACD Ring Again defined, an internal telephone can activate ACD Ring Again against the call.

Attendant Extended Calls

The attendant cannot extend NCFW calls under invalid conditions. However, the attendant can extend NCFW calls after they have been returned to the ACD DN queue. The attendant as the originator decides if the call can be returned to the ACD DN queue or not.

Call Transfer

Call Transfers and Network Call Transfers cannot be completed when the NCFW treatment defined is a Busy or Overflow tone. Transfers can only be completed if the NCFW call has been returned to the ACD DN queue. Network Calls use trunk numbers (ACOD numbers defined) instead of DNs for call identification.

CLID Route Selection

Access codes for ANI trunks can be defined as valid NCFW destinations.

Message Center

When the NCFW destination defined is a Message Center telephone, the call receives an Overflow tone instead of messaging, and is *not* returned to the ACD DN queue.

Network Ring Again (NRAG)

Calls from trunks in the ISDN environment that are connected to a busy NCFW destination are returned to the ACD queue and are not allowed Network Ring Again.

Overflow by Number

Calls linked to an internal ACD DN through NCFW treatment are eligible to Overflow by Number to the target queue of the Interflow DN (IFDN).

Ring Again (RGA)

Only internal telephones and trunks on the same trunk can activate RGA against an NCFW call.

Trunk Group Busy

If the NCFW number defined is a trunk access code, and the trunk has been busied out using the Trunk Group Busy key, the NCFW call is transferred to the attendant.

Time Overflow

If the source ACD DN is in Night Service, NCFW calls are not eligible for Time Overflow unless the call was in the TOF queue when the ACD DN was placed into Night Service. Then the NCFW feature is used to present calls from the TOF queue to the NCFW destination. No new NCFW calls are allowed to TOF.

A call is eligible for time overflow if:

— it is not already in the TOF queue.

— its source ACD DN is valid.

— its source ACD DN is not in Night Service.

— its source ACD DN has TOFT defined.

— it has waited longer than the TOFT time.

Feature requirements

The call in NCFW is not returned to the source DN if the call originates from a trunk eligible for the following treatments:

CCBQ = Coordinated Call Back Queuing
CBQCM = Call Back Queuing to Conventional Mains Off-Hook queue offer tone

Note 1: Loop start signaling trunks are not allowed to be diverted to the NCFW DN. If the Night Treatment defined is Recorded Announcement (RAN), there is no way to determine when the call is abandoned.

Note 2: With ACD DISC SUP PK package, CO loop start trunks terminating to an ACD DN are allowed to NCFW or interflow. However, avoid the following situations:

— An ACD DN NCFW's a local set that CFNA's to MMail.

— Night RAN is defined while NCFW = none.

— Using an external route with SUPN = NO for either NCFW or interflow.

In cases a and b, trunks become hung-up and must be manually disabled in Overlay 32. In case c, if the caller abandons the call, the destination set rings until the abandoned call is answered and the set goes on-hook

NCFW can forward a call many times as long as the NCFW DNs are ACD DNs that are not in the Interflow state. If the NCFW DN is not an ACD DN, then the call is *not* allowed to return to an ACD DN through Hunting, Call Forward No Answer (CFNA), or Call Forward All Calls.

Calls on trunks without answer supervision cannot Night Call Forward.

When a Night Call Forward destination is busy, the caller may receive silence or unpredictable ringing until the destination is free. To alleviate this condition and to inform the caller of the status of the call, define a Night RAN route.

Night Call Forwarding is not supported by the following features and services:

— Direct Inward System Access (DISA)

— Data Services

— Call Park Recall

Night Treatment (Basic)

This optional feature can be used to inform ACD callers that the ACD location is not in service for after-business-hours calls. These calls can be handled in three ways:

— RAN can be provided as part of the Night Treatment for after-hours ACD calls indicating that the ACD location is closed.

— Whether or not it receives RAN, the ACD call can be forwarded to another ACD location or to a Night Service number. Only internal calls or calls from trunks that provide disconnect supervision can be call forwarded for Night Treatment.

— No treatment at all can be given. Callers receive ringback tone until the call is abandoned. No answer supervision is given to the Central Office (CO) from the switch.

The Night Treatment feature requires all agent positions to be equipped with a Make Set Busy (MSB) key. The feature is activated automatically when all agent positions assigned to an ACD DN operate the MSB key. On the 500/2500 telephone, the MSB feature is activated when the agent performs a log out by entering the SPRE code plus 97.

Priority Agents (Advanced)

Priority Agents allows ACD supervisors to assign priorities to agents on an individual or group basis. Calls to an ACD DN are presented to the highest priority agent.

Priority Agents allows more experienced agents to receive more calls or allows a supervisor to assist during high-volume times. When an agent is not available, calls are placed in the Call Waiting queue. Calls are routed to the agent of the highest priority who has been idle the longest. Priority 1 is the highest priority.

Priority Agents requires ACD-B to support the feature. Systems operating in an ACD-D environment need a minimum of X11 Release 9 to support the feature.

Different machine types allow different capacities:

— 32 priorities possible

- MS, N, RT, S, ST, STE, and XN machines
- System options 21, 21E

— 48 priorities possible

- NT and XT machines
- System options 51, 61, 71, and 81

An agent can have only one priority at a time. Virtual agents are not supported by priority assignments. When the agent logs in, the priority assigned to that agent is displayed on the telephone.

The default priority is 1. Setting the priority at 1 gives all agents the same priority. Assigning agents to different priorities presents the first call to the *agent of the highest priority* who has been idle the longest. Priority 1 is the first priority level agent to receive calls.

Using the following features, calls are presented to the next available agent of the highest priority who is idle the longest. If there are no agents available, the call is queued to the high-priority or non-priority queue for that ACD DN.

— Call Forwarding

— Call Park/Recall

— Conference calls

— Interflow calls (IFDN)

— Night Call Forward DNs (NCFW)

— Ring Again (RGA)

— Transferred calls

Priority Agent Groups

A Priority Agent Group can include only one agent, or all the agents for a single ACD DN. Calls are routed to the highest priority group until all agents in that group are servicing a call. Subsequent calls are then be routed to the next priority level.

Not Ready (NRD) Key

If an agent presses the NRD key while a call is ringing, the call is routed to the next agent of the highest priority who has remained idle the longest. Calls are routed to the highest priority group until all the agents of that group are on a call. Calls are then routed to the next highest priority group, until all those agents are active on a call. If there are no agents available, the call is linked to the front of the queue from where it originated.

If a target agent presses the NRD key when presented with a Time Overflow (TOF) call from its source queue, then the call is presented to the highest priority agent who has waited the longest. If there are no idle agents, the call is returned to the TOF queue for the source ACD DN.

Time Overflow

When incoming calls Time Overflow, the system searches for an idle agent in the source and target queues. The call is presented to the highest priority agent who has been idle the longest. When more than one target is defined, the system searches according to the order defined in Overlay 23.

Priority trunks (Basic)

This optional feature allows the customer to designate certain incoming ACD trunks as having priority. When implemented through Service Change programs, calls to ACD DNs on priority trunks move directly to the front of any non-priority calls in the call queue. Any non-priority ACD calls in the queue maintain their position in relation to each other but are placed behind priority calls in the queue. Although ACD calls are not dropped or lost by the system, long waiting times for non-priority calls can be avoided by using Automatic Overflow.

Recorded Announcement (Basic)

Recorded Announcements are specified for each ACD DN independently of the other ACD DNs. When the system determines that an ACD caller is ready to receive a recorded announcement (RAN), the caller is connected to a recording trunk at the beginning of the RAN cycle on a one-to-one basis. If an agent becomes available to serve a caller who is currently receiving a RAN, the RAN is interrupted and the call is presented to the agent.

An attendant does not receive RAN treatment when extending a call. After an attendant completes the call extension to an ACD DN, the extended caller can receive first and second RAN or Music as defined for the ACD queue. The ACD RAN is not given to calls waiting in the attendant queue.

> ***Note:*** If an attendant originates a call to an ACD DN, it receives ringback only.

A customer may want to give recorded announcements (RAN) and Music to all calls except those coming in on WATS trunks, yet have only one ACD DN for answering all calls. This can be done in two ways through the use of a “dummy” queue.

— **Overflow** This method is useful when caller information is required. For example ISDN and CLID information is carried along with the overflowed call.

1 Send the incoming WATS calls to the dummy queue.

2 To Overflow calls, a telephone must be logged in to the dummy queue.

3 Put the telephone in Not Ready.

4 Set the Overflow threshold to zero (0).

5 Assign the desired ACD DN as the OVDN and the calls overflow to the actual ACD queue.

— Night Call Forward

1 Send the incoming WATS calls to the dummy queue.

2 Put the dummy queue in Night mode.

3 Assign the desired ACD DN as the Night Call Forward DN, and the calls are forwarded to the Night Call Forward DN.

When the number of calls in a call queue exceeds the number of available agents, calls are delayed before being answered. RAN can be used to advise the caller of the delay. ACD allows a choice of two RANs per ACD DN, which operate independently of each other. Unlike the Music On Hold feature, RAN does not use the conference loops.

First RAN (Before X11 Release 2)

The system keeps track of how long each call receives a ringback tone before being answered and evaluates each incoming call on the basis of how long the most recently answered call had to wait. If the time expected to answer an incoming call exceeds a customer-defined time (t1), the call receives RAN at the beginning of the next RAN cycle. Delay Start must be defined in Overlay 16, the Route Data Block (RDB).

A call that arrives in the queue when the Delay Threshold (t1) has not been exceeded receives the first RAN after the second customer-specified time of t2. After RAN, the call is placed on Silent Hold or else it receives Music On Delay, until answered or abandoned. A caller dialing the ACD DN hears an audible message describing a delay possibility and can disconnect, decreasing the holding time on the trunk under busy conditions.

First RAN On Arrival

If the response to FROA is NO in Overlay 23, all calls must wait for the duration of the first RAN timer (t1 as specified) before receiving the First RAN. If the response is YES, a call that is eligible for first RAN treatment receives it immediately after entering the ACD queue.

Second RAN

On completion of first RAN, a customer-specified timer for a Second RAN (t2) is started. Each call that has been in the queue longer than t2 seconds gets Second RAN. Second RAN is repeated every t2 seconds until the call is answered or abandoned.

RAN summary

In summary, first RAN is given either immediately upon being queued or at t1 seconds later. Second RAN is presented t2 seconds following First RAN and repeated at t2-second intervals. The two RANs operate independently of each other. Both are optional and the customer can have just the first announcement or both consecutively.

The two timers, t1 and t2, have no fixed relationship to each other. This gives the customer the flexibility to specify the RAN treatment to suit the requirements of the installation. Factors such as the time allowed for the announcement and the waiting time between announcements depend on the type of recorded announcement equipment used. The system is compatible with Audichron, CODE-A-PHONE, Cook Electric, and Interalia announcement machines.

Recorded Announcement Broadcast

The Release 23 Recorded Announcement Broadcast (RANBRD) feature expands the existing functionality of the Recorded Announcement (RAN) feature. Previously, the Recorded Announcement (RAN) feature used one-to-one connection between a calling party and a designated RAN trunk connected to a physical Recorded Announcement machine. Therefore, if four calling parties were receiving RAN treatment then four RAN trunks were occupied to provide this functionality.

The Recorded Announcement Broadcast feature eliminates the need for multiple cross-connections to provide recorded announcement. With this feature, multiple calling parties receive RAN treatment from one RAN trunk. Thus allowing a RAN trunk to simultaneously broadcast announcements to maximum of 48 calling parties per RAN trunk. This expansion maximizes the usage of available RAN trunks.

This feature also introduces the following enhancements:

— Incremental Software Management limits

— RAN signalling capabilities

— Multi-Channel RAN Machine Types and Modes

— Message Staging Through Queuing Thresholds for Delay Dial Start/Stop RAN machines

— Music on Waiting

— Traffic Study Option

For further information on the RAN Broadcast feature, refer to *Features and Services* (553-3001-306) Return to Queue After No Answer

Prior to the introduction of the Return to Queue After No Answer (RTQNA) feature, an incoming Automatic Call Distribution (ACD) call rang until the agent answered the call or the caller terminated the call.

The RTQNA feature forwards an unanswered (within a defined number of rings) ACD call from one agent set to the next idle ACD agent set. If the call is not answered, the call is sent back to the original queue. The following details how the feature works:

— A call is presented to an ACD agent; the set rings.

— When the ACD agent does not answer the ACD call, the RTQNA feature automatically places the agent into the Make Set Busy (MSB) or the Not Ready (NRD) state.

— The call is presented to an idle ACD agent.

— If there is not an idle ACD agent, the call is returned to the front of the original queue. The call is sent to the first available ACD agent.

Note: The NACD feature allows ACD agents at different locations (nodes) to service calls over the network at remote targets. When an unanswered ACD call is routed via NACD to a remote ACD DN node and the call is not answered by an ACD agent, the call is placed in a time overflow queue (TOQ) of the remote ACD node, the call is not returned to the original ACD DN target node queue.

The RTQNA feature allows the Call Center system administrator to define the maximum number of rings for each ACD incoming call (0-50 ringing cycles) before it is transferred to another ACD agent.

In addition to ACD environments with agent sets, the RTQNA feature is applicable to third-party Interactive Voice Response (IVR) systems.

Operating parameters

The RTQNA feature functions at full capacity only when a Meridian 1 proprietary set has a MSB key and a NRD key defined.

The RTQNA feature is supported for analog (500/2500) sets. However, a MSB or NRD key cannot be defined on an analog (500/2500) set. If the RTQNA feature automatically puts the analog (500/2500) agent set into the MSB or NRD state, the only notification is a distinctive tone when the agent lifts the handset.

The RTQNA feature does not apply to voice mail Directory Numbers (DNs).

An incoming ACD call can be sent to an idle agent and continue to ring without going back to queue in the following four scenarios:

— If the ACD agent set does not have a MSB/NRD key defined on the Meridian 1 proprietary set, the RTQNA feature cannot be activated and the call continues to ring on the agent set.

— If a Customer Controlled Routing (CCR) call is presented to the only available ACD agent and the call is unanswered, the RTQNA feature places the agent into the MSB state and the queue into night service mode. This action causes the CCR call to ring until the customer hangs up.

— For ACD package A or B: if the MSB or NRD key for an ACD agent set is not defined and the RTQNA feature is enabled, the call rings on the agent set until the agent answers or the caller terminates the call.

— For ACD package C and D: if the ACD agent set is a Meridian 1 proprietary set, the ACD agent can log in by pressing the In Calls key and log out by unplugging the headset or by toggling the MSB key. If the last agent is logged off, the call keeps ringing on the agent set.

If an agent with ACD package C and D has an Independent Directory Number (IDN) call on hold and ACAA = Yes, the RTQNA feature cannot put the agent into the NRD state. However, the agent can press the Incalls Key to return to the idle agent queue.

The ACD C reports do not indicate that an ACD agent has been logged out by the RTQNA feature. A short report is generated with the letter “R” indicating when an ACD agent is logged out by the RTQNG feature.

Feature interactions

Time Overflow

When a call is not answered in a predefined time limit, the call is forwarded to the Time Overflow (TOF) queue. The TOF queue distributes the ACD call as described in the following:

— The TOF queue forwards an ACD call to an idle ACD agent.

— If the call is presented to the source ACD agent, the queue timer for the source ACD DN is used.

— If the call is presented to the target ACD agent, the queue timer for the target ACD DN is used.

— If there is no idle ACD agent within the number of specified ring cycles, the call is returned to the front of the TOF queue of the source ACD DN.

Hold in Queue for Interactive Voice Response

With the RTQNA feature, an unanswered call is returned to its original position in the queue.

When a call is queued to an Interactive Voice Response (IVR) port and the call is presented to an ACD agent, the call is removed from the IVR queue. If the ACD agent is automatically put into the MSB or NRD state by the RTQNA feature, the call is not returned to the IVR queue.

ACD Call Waiting Indication Key

The ACD Call Waiting Indication key reflects a decrease by one when a call is answered, and an increase of one when the RTQNA feature returns a call to queue.

Status Display

The Status Display reading on the supervisor’s set shows when a call is sent to an agent and when an unanswered call is sent back to the original queue.

When an agent’s set is automatically put into the MSB state by the RTQNA feature, the ACD supervisor’s corresponding AGT key lamp turns dark. The supervisors key lamp flashes when the agent is put into the NRD state.

Agent Login Observe

There are two possible interactions between Agent Login Observe and the RTQNA feature:

— If RAO = Yes, the RTQNA feature automatically puts the agent into MSB. the Supervisor cannot observe the agent's Individual Directory Number (IDN) calls.

— If RAO = Full, the RTQNA feature automatically puts the agent into MSB or NRD.

In either of these cases, the Supervisor cannot observe the agent's IDN calls.

Multiple Queue Assignment

Agents can receive an ACD call from up to five queues. If the agent does not answer a call within the specified number of rings, the agent is automatically placed in the MSB or NRD state and removed from the five queues. The agent must log back into the queues to receive calls.

Symposium Call Center Server

The Symposium Call Center Server has a RTQNA feature that takes precedence over the RTQNA feature. If the Symposium Call Center Server is down and default routing is in effect, the RTQNA feature directs incoming calls as defined in the RTQNA feature configuration in Overlay 23.

Feature interaction

Meridian MAX

Meridian MAX 9.0 supports the messages sent by Meridian 1 for the RTQNA feature. When the agent is put into the MSB or NRD state, the High Speed Link (HSL) sends a message to Meridian MAX indicating that the state is due to the activation of the RTQNA feature.

Set Feature Notification message

The ACD agent must have an MSB and/or an NRD key defined for the Set Feature Notification message to be sent to Meridian Link.

Feature packaging

The RTQNA feature requires the Basic Automatic Call Distribution (BACD) package 40.

Feature implementation

The following information is needed to configure the RTQNA feature:

— The Call Force feature and the RTQNA feature are mutually exclusive.

— The Call Force Option (FORC) prompt must be set to NO in Overlay 23, for the RTQNA feature to function.

LD 23 – Configure the RTQNA feature without Call Force feature.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change exisiting data.
TYPE:	ACD	Automatic Call Distribution data block.
CUST	xx	Customer number associated with ACD data block as defined in LD 15.
ACDN	x..x	Automatic Call Distribution Directory Number.
..		
FORC	NO	Call Forcing Option. Calls are forced to arrive in answered state.
RTQT	(0)-50	Return to Queue After no Answer Timer. Define number of ring cycles before call is returned to queue.
- RTQO	(NRD) MSB	(NRD) = Agent goes to Not Ready state. MSB = Agent goes to Make Set Busy state.

Note: The normal ring cycle for each ring or buzz is 6 seconds. If the Flexible Tone and Cadence package is enabled, the length of time for each ring or buzz is defined in Overlay 56.

Feature operation

No specific operating procedures are required to use this feature.

Secondary DN Call Blocking (SDNB) (Advanced)

Secondary DN Call Blocking (SDNB) blocks out new incoming calls to the Secondary DN on an agent's telephone, so the agent can handle current ACD calls without interruption. An agent telephone is considered ACD active when a call is presented or connected to the agent's ACD In-Calls key.

With Secondary DN Call Blocking enabled (SDNB = Yes), an incoming call to the Secondary DN of an ACD active agent telephone receives a busy tone.

When Hunting is allowed and the secondary DN is called, the incoming call hunts to the Hunt DN specified.

When Hunting is denied and the secondary DN is called, the caller hears a busy tone.

Calls cannot Camp-On or use Call Waiting but Ring Again is available. When the ACD In-Calls key is idle, incoming calls to the Secondary DN terminate normally.

Multiple Appearance DNs

Calls to Multiple Appearance Directory Numbers as secondary DNs are connected normally, unless the agent is active with an ACD call. If there is at least one telephone within the multiple appearance group not active, the call connects to that telephone. The appearances that are ACD active are ignored.

Single Call Arrangements (SCR)

When the incoming ACD call is answered, the Secondary DN lamp lights on all telephones with that DN. Another agent cannot enter this call unless the following occurs:

— the first terminating telephone releases privacy, or

— the new agent telephone has Privacy Override Class of Service

While a call is active on a Multiple Appearance Secondary DN, no other calls can be originated from that DN from any other appearance.

Multiple Call Arrangements (MCR)

When an incoming call is directed to the Secondary DN, the SDN rings on idle telephones only. If an agent is active on an ACD call and becomes idle while a call is ringing on the MCR SDN, the call is not presented to the newly idled telephone.

While a call is active on a Multiple Appearance Secondary DN, other calls can be received on and originated on that DN from any other appearance.

Set service options to block calls in Overlay 23. Refer to the *Administration* (553-3001-311) for a complete description of the service change programs. When the options are set as shown in Table 8, calls to the Secondary DN are either blocked or not blocked.

Table 8
Service options for SDNB

SDNB	Idle	Ringing	DCP	PCP
YES	Not blocked	Blocked	Blocked	Not blocked
NO	Not blocked	Not blocked	Not blocked	Not blocked

Feature interactions

ACD Not Ready

When an agent is doing post-call processing (PCP) while using the Not Ready (NRD) key, incoming calls to the Secondary DN are not blocked by SDNB.

Blocked Calls

Calls using the following features are blocked by SDNB:

— Auto-Terminating Trunks

• The call is never presented, but the caller hears ringback tone.

— Calls Transferred

— Conference calls

— Dial Intercom Group calls

— Group calls

— Hot Line and Hot Line List calls addressed to the Secondary DN

— Manual Trunk Terminations

• The call is never presented, but the caller hears ringback tone.

— Overriding calls

— Private Lines

• The call is never presented, but the caller hears ringback tone.

— Speed calls and System Speed calls

Calls Not Blocked

With SDNB enabled, the following calls to the Secondary DN are allowed to terminate normally:

— Calls Parked may Recall

— Manual signaling, or “buzzing” a Secondary DN

Calls Not Supported

The following call services are not supported:

— Calls Waiting

— Camp-On calls

— Telephone to telephone Call Waiting

Supervisor Control of Queue Size (Advanced)

Supervisor Control of Queue Size allows ACD DNs to return a busy tone to selected call types. With this feature, an ACD DN can return a busy tone to new calls when all of the following conditions are met:

— No Interflow DN is designated.

— The number of calls in the queue meets or exceeds the Overflow Threshold.

— No Overflow destinations are configured, or the Overflow destinations are busy, or the Overflow destinations are in Night Service.

— The busy tone is configured for Supervisor Control of Queue Size (OVBU).

— The call has not arrived on a two-wire or CO/WATS/FX type trunk.

Supervisor Control of Queue Size allows busy tone treatment for calls from three possible origins:

— internal calls (including transferred and conference calls)

— attendant calls

— DID or Tie trunks

The treatment can be defined for each call type as busy tone or link in queue. The default for all call origins is link in queue. See Overlay 23 in the *Administration* (553-3001-311) to configure call treatment.

Figure 9 provides a flowchart explaining how the supervisor can control calls.

Figure 9
Flowchart for call treated with Supervisor Control of Queue Size

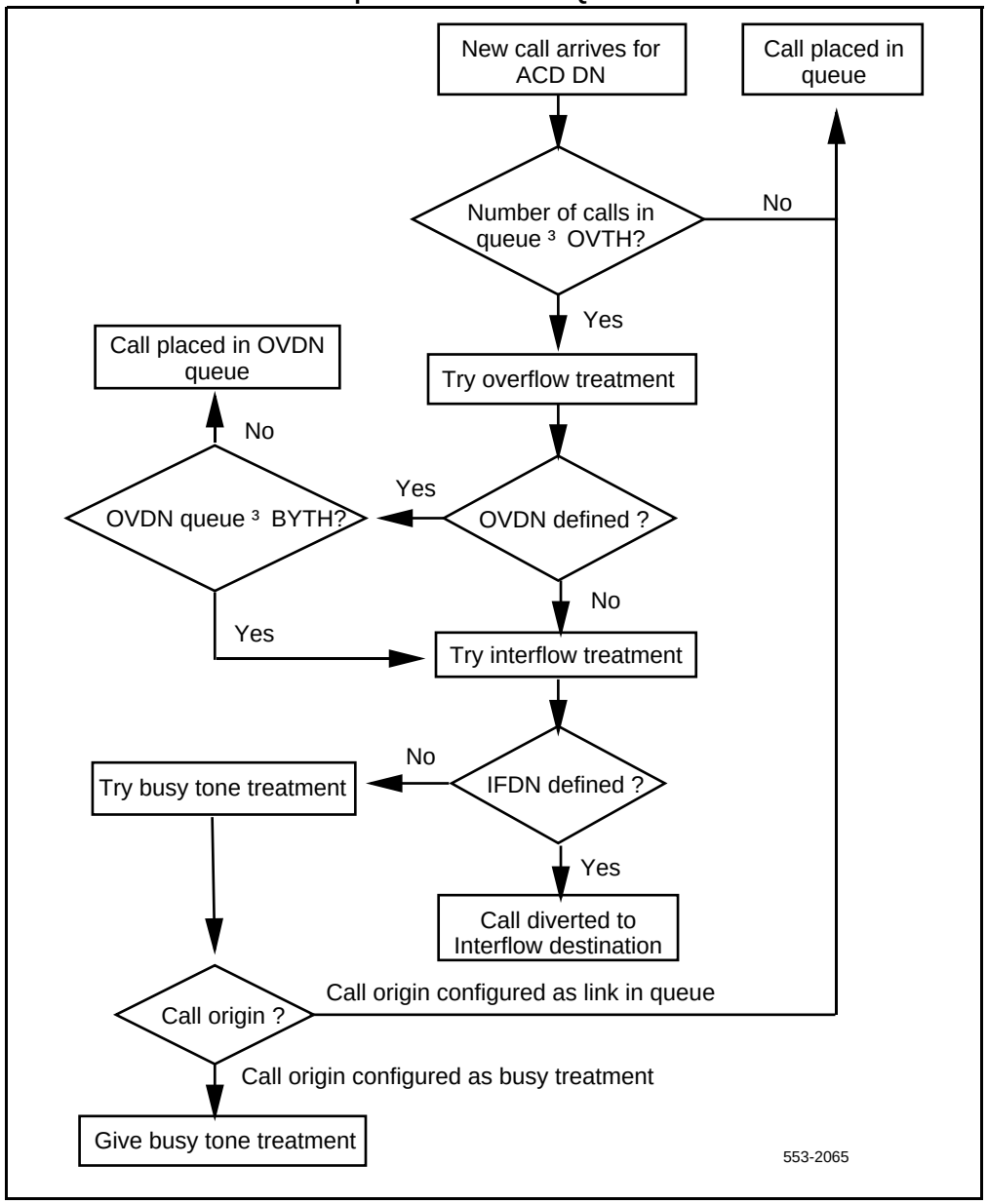


Table 9 illustrates this feature's impact on ACD operations.

Table 9
Supervisor Control of Queue Size impact on ACD operations

Number of calls meets or exceeds the Overflow Thresholds	Interflow DN defined	Overflow destination defined and available	Call origin	ACD functionality
no	n/a	n/a	n/a	unchanged
yes	yes	n/a	n/a	unchanged
yes	no	yes	n/a	unchanged
yes	no	no	internal	busy tone or link in queue
yes	no	no	attendant	busy tone or link in queue
yes	no	no	CO (WATS/FEX)	link in queue
yes	no	no	DID or Tie	busy tone or link in queue

Feature interactions

CAS

If a call is extended to an ACD DN by the Centralized Attendant Service (CAS), the call is treated like an attendant type call.

Call Transfer

When an ACD DN receives a call from a transfer, the call is considered internal.

Conference

When an ACD DN receives a conference call, the call is considered internal.

Interflow

If an Interflow DN is configured, this feature is inactive. Conversely, if an Interflow DN is not configured, this feature is activated.

Night Service

If Night Call Forward (NCFW) diverts a call to a DN that operates with Supervisor Control of Queue Size, a caller may hear the night RAN first, then receive a busy tone. It is recommended that a call not be forwarded to a Night DN with this feature enabled because it is possible that the RAN is heard before the busy tone.

Operating parameters

Supervisor Control of Queue Size is configured on an ACD DN basis. This feature and Interflow treatment are mutually exclusive.

Busy tone cannot be configured for CO trunk calls. Calls received from CO trunks are linked in queue. Central Office trunk calls Night Call Forwarded across Tie lines to an ACD DN can receive a busy tone under the following conditions:

— if the call is answered at the local switch, then transferred to the remote one

— if the call is presented to an ACD DN that is Night Call Forwarded to a non-ACD telephone and that telephone is Night Call Forwarded to the Night DN

Time Overflow (TOF) queuing (Advanced)

Time Overflow (TOF) provides a way to give special handling to calls that have been waiting too long. Time Overflow (TOF) overflows unanswered calls to other queues based on a customer-defined time threshold. Once a call has Time Overflowed it can be answered by either the source ACD DN or target ACD DN agents. The source ACD DN queue and the target ACD DN queues are monitored to collect Time Overflowed calls and present them to the first available agent.

The advantage of Time Overflow (TOF) is that it allows calls that have waited the longest to be answered first. Calls from the TOF queue can be answered by the first available agent of the source ACD DN or target ACD DN.

TOF operation

The high-priority and non-priority queues for each ACD DN are continuously monitored to find calls that exceed the Time Overflow Timer (TOFT) in Overlay 23. Calls that exceed the TOFT value are put in the TOF queue for the source ACD DN.

There is one TOF queue for each ACD DN. Call priorities are maintained when a call is placed in the TOF queue. Priorities are maintained by inserting high-priority calls in the TOF queue before inserting non-priority calls.

For each queue, there are three levels of priority: non-priority, high-priority, and TOF.

Non-priority queues are for calls on trunks with ACD priority not required (CLS = APN in Overlay 14) and the Time Overflow Timer (TOFT in Overlay 23) has not expired. This also includes internal calls.

High-priority queues contain calls on trunks with ACD priority required (CLS = APY in Overlay 14) and the TOFT has not expired.

TOF queue contains calls with the TOFT expired. Calls in the TOF queue can be either APN or APY trunk calls, or both.

TOF operation by time

1 A call enters the source ACD DN high-priority or non-priority queue.

2 The calls remains in the source queue until the call waiting time meets the TOFT value. The call is placed in the source TOF queue.

3 The call can be answered by any agent in the source ACD DN or by a target agent.

TOF operation with Automatic Overflow

1 A call attempts to enter a source ACD DN high-priority or non-priority queue. The OVTH for the source ACD DN has been met or exceeded, but the BYTH for the target ACD DN has not been met.

2 The call overflows by number to the target queue. It remains there until answered, abandoned, or the TOFT from the source expires.

3 When the timer expires, the call is recalled to the source TOF queue.

4 The call can be answered by any agent in the source ACD DN or target ACD DN.

TOF operation with Interflow

1 A call attempts to enter a source ACD DN high-priority or non-priority queue that is in Interflow state.

2 The Interflow destination is an ACD DN and the incoming call interflows to it. The call remains there until answered, abandoned, or the TOFT from the source expires.

3 When the timer expires, the call is recalled to the source TOF queue.

4 The call can be answered by an agent in the source ACD DN or target ACD DN.

Note: If the Interflow destination is not an ACD DN, the call is never recalled to the source TOF queue.

As agents become available, calls are presented based on call priority and the HPQ prompt in Overlay 23.

When HPQ = Yes, the agent is presented with calls in this order:

1 calls in the agent's own TOF queue
(These are both high-priority and non-priority calls.)

2 calls waiting in the agent's own high-priority queue

3 calls from other TOF queues targeted to this agent's queue

4 calls waiting in the non-priority queue

When HPQ = No, the agent is presented with calls in this order:

1 calls in the agent's own TOF queue
(These are both high-priority and non-priority calls.)

2 calls from other TOF queues targeted to this agent's queue

3 calls waiting in the agent's own high-priority queue

4 calls waiting in the non-priority queue

Empty queues

Only when the source TOF queue, high-priority queues, and target TOF queues are empty is the agent presented with a call from the non-priority queue.

If the non-priority queue is empty, the agent is linked to the available agent queue.

Source TOF queues are searched first by priority then by time to find the next call to be served. All high-priority calls are answered before non-priority calls regardless of how long they have waited. If the priorities are equal, the oldest calls are serviced first. Refer to the flow chart in Figure 10.

Time Overflow does not occur during the following conditions:

— ACD Ring Again calls

— Call Park Recall calls

— callers active in Telset Messaging

— calls to a source ACD DN in night service

— when the target queue is in night service

Time Overflow Timer

Incoming calls can Time Overflow only if the source ACD DN has a TOFT defined. However, an agent can still answer TOF calls as the target DN for another ACD DN.

If the TOFT is defined, but the ACD DN is not configured as the target DN for any other source DN, the agents can only answer TOF calls from their own TOF queue.

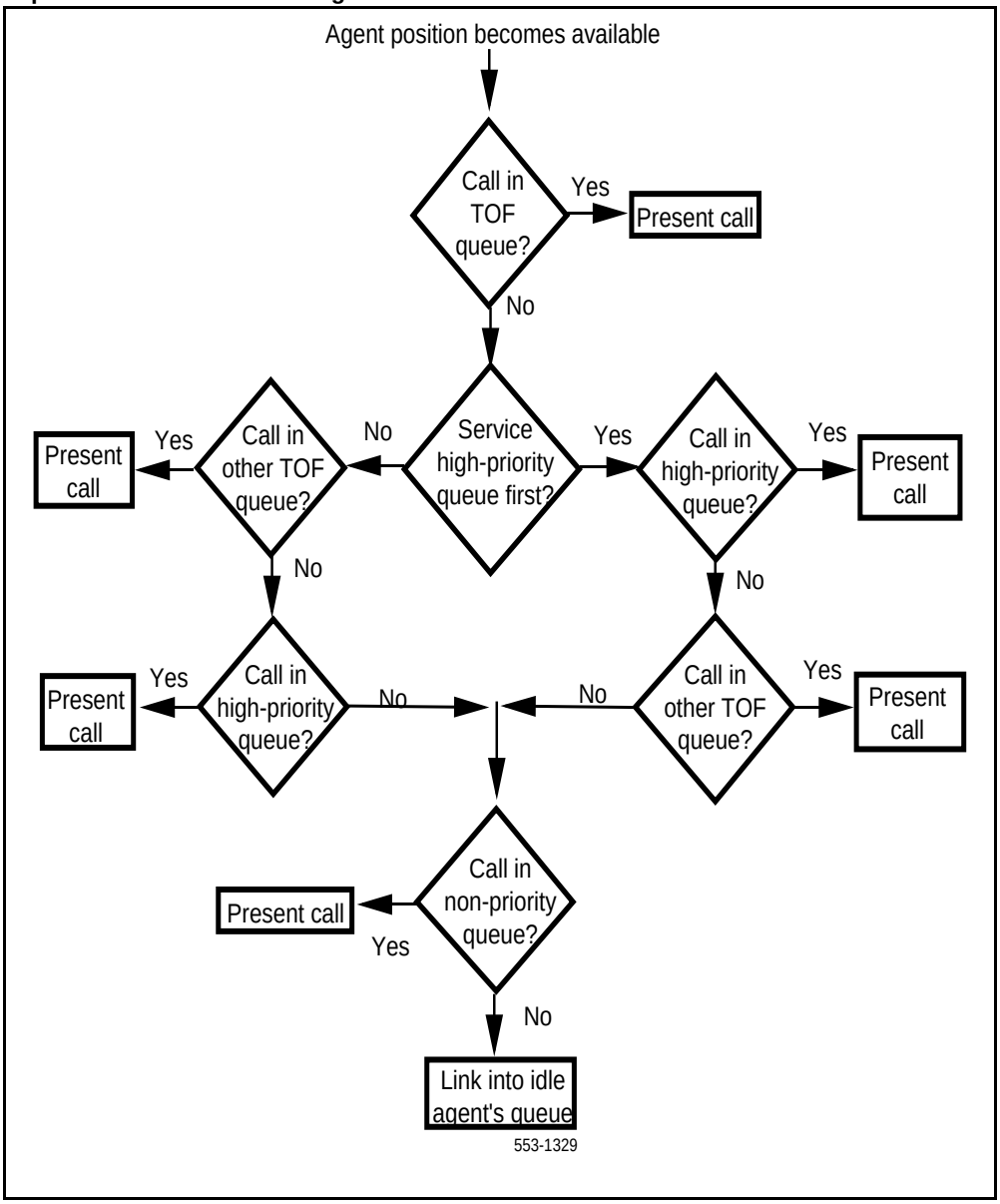
— Each target ACD DN can answer TOF calls for up to six source ACD DNs.

— Each target ACD DN can answer TOF calls for up to 100 source ACD DNs when Enhanced Overflow is allowed.

— Usually, it is not feasible to allow calls from a source ACD DN in one application to be answered by target ACD DN in another application.

Note: If the source ACD DN sends calls to a target ACD DN without the TOFT designated in Overlay 23, the source ACD DNs calls have high priority and get answered first. If the target ACD DN has the TOFT programmed in Overlay 23, its own TOF calls have priority over any calls sent by TOF.

Figure 10
Call presentation to available agent



Compare with Automatic Overflow

Automatic Overflow diverts a call to a Target ACD DN when the number of calls in the source queue meets or exceeds the Overflow Threshold (OVTH). The next call entering the queue attempts to overflow. For Automatic Overflow, the number of calls in the TOF queue must be added to the total number of calls waiting for service when a new call comes in.

Table 10 shows a comparison between Automatic Overflow and Time Overflow.

Table 10
Overflow comparison

	Automatic Overflow	Time Overflow
Condition	The number of calls waiting is greater than the OVTH for the source queue.	The time the call waited is greater than the TOFT for the source queue.
Action	Put the call into the high-priority queue, or non-priority queues for a target ACD DN, if available.	Put the call in the TOF queue for the source ACD.
Result	The call is answered by an agent in the queue where the call terminates. Only looks once at targets and if none are available, the call is linked to the source ACD DN.	The call may be answered by an agent of the source ACD DN or a target ACD DN.

Automatic Overflow only

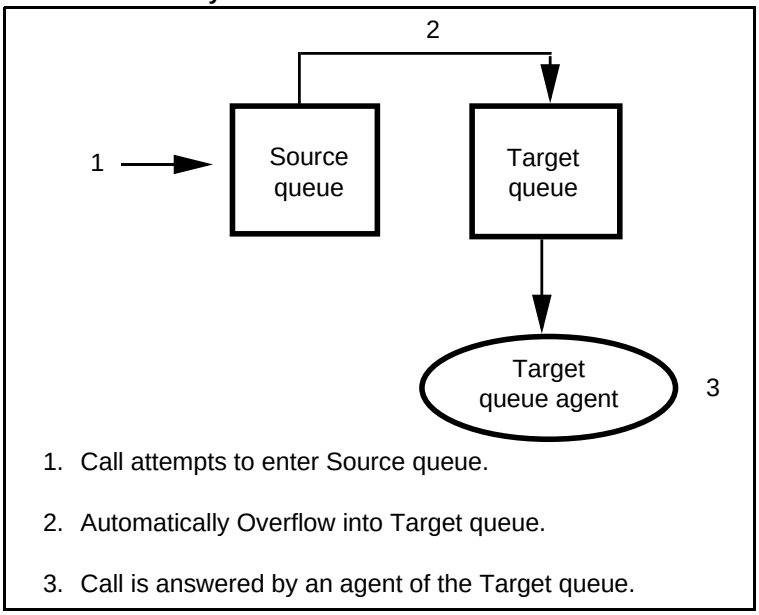
In this configuration (see Figure 11), a call automatically overflows to a target ACD DN based on the number of calls in the source and target queues. It can only be answered by an available agent of the target DN. To Automatically Overflow, the following conditions are required:

— A TOFT value for this ACD DN is not defined.

— An Overflow destination must be specified.

— The OVTH has been met or exceeded.

Figure 11
Automatic Overflow only



Time Overflow only

In this configuration (see Figure 12), the call overflows by time to the Source queue and is answered by any available agent in the source ACD DN or any one of the three target queues. For a Source queue to Time Overflow only, the following conditions must be met:

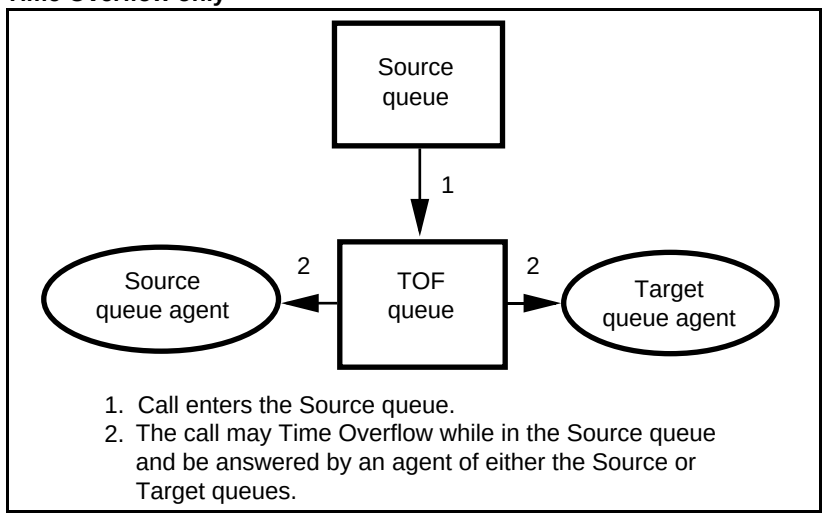
— The TOFT value must be set between 2 and 1800 seconds.

— The OVTH must be set to a value of 1–2047. If set to 2047, the source queue does not Automatically Overflow.

— The Overflow destinations must be specified.

If an ACD queue is a TOF target but does not Overflow its own calls, the TOFT should be set low to ensure its own incoming calls are answered.

Figure 12
Time Overflow only


Source queue
1
Source queue agent
2
TOF queue
2
Target queue agent
1. Call enters the Source queue.
2. The call may Time Overflow while in the Source queue and be answered by an agent of either the Source or Target queues.

Automatic Overflow and Time Overflow

This configuration is shown in Figure 13. When the source ACD DN is configured to Automatically Overflow and Time Overflow, a call could Overflow to a Target queue and be recalled back to the Source queue. This same call is then placed in the source TOF queue, and is answered by an agent of either the Source or Target queue. To Automatically Overflow and Time Overflow, the following conditions must be met:

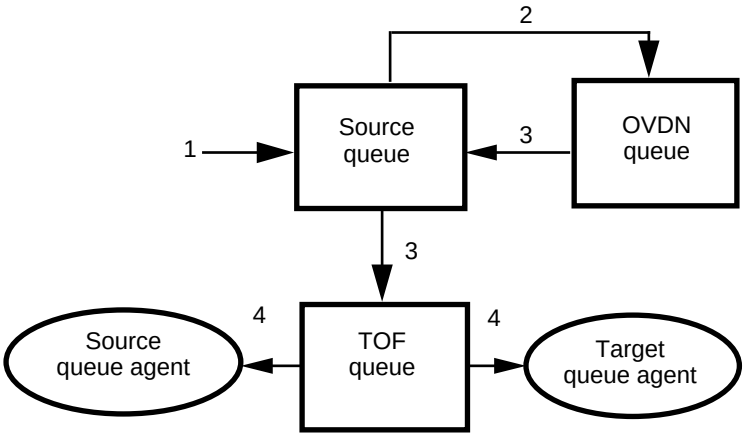
— TOFT must be set between 2 and 1800 seconds.

— Specify the Overflow destinations.

— OVTH value must be met or exceeded for the source ACD DN.

— The BYTH of the target queue has not been met.

Figure 13
Automatic Overflow and Time Overflow



1. A call may enter the Source queue.
   OR
2. The call may Automatically Overflow into the OVDN queue.
3. The call may be recalled back to the Source ACD DN and be placed in the Source TOF queue.
4. The call is answered by an agent of either the Source or Target queue.

Interflow only

Figure 14 shows Interflow by count only. In this configuration a call interflows by count to an IFDN that is an internal ACD DN. The call can only be answered by an available agent of that ACD DN. For Interflow to occur, the following conditions must be met:

— IFDN destinations must be specified.

— Interflow must be enabled either automatically (AENI) or by the supervisor's ENI key.

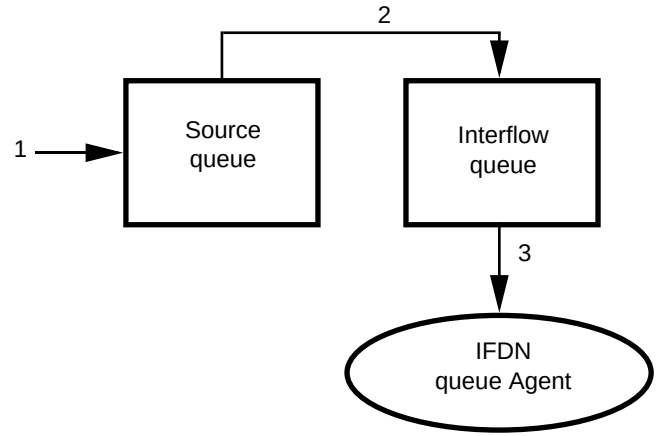
— The OVTH must be met or exceeded.

— No Overflow destinations are available.

— The TOFT is not defined.

— The IFDN queue is in day service.

Figure 14
Interflow by count only, answered by IFDN



1. Call attempts to enter the Source queue.
2. Call Interflows into the Target queue.
3. Call is answered by an agent in the IFDN queue.

Interflow and Time Overflow

Figure 15 illustrates Interflow and Time Overflow. A source ACD DN can be configured to Interflow as well as recalling to source by time. The IFDN must be an ACD DN. The call is eventually answered by an agent of the source ACD DN or Target queues. For this to occur, the following conditions must be met:

— The IFDN must be defined as an ACD DN.

— Interflow must be enabled either automatically (AENI) or by the supervisor's ENI key.

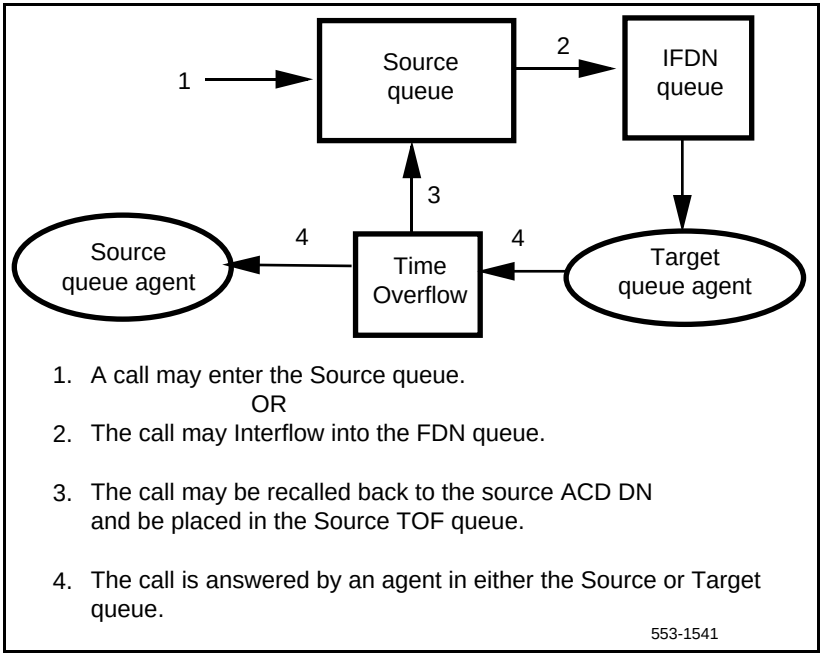
— The OVDNs must be defined.

— The OVTH must be met or exceeded.

— The BYTH must be met or exceeded.

— The TOFT must be defined.

Figure 15
Interflow and Time Overflow


1
Source queue
2
IFDN queue
3
4
4
Source queue agent
Time Overflow
Target queue agent
1. A call may enter the Source queue.
OR
2. The call may Interflow into the FDN queue.
3. The call may be recalled back to the source ACD DN and be placed in the Source TOF queue.
4. The call is answered by an agent in either the Source or Target queue.
553-1541

Feature interactions

Display Waiting Calls (DWC) key

A Display Waiting Calls key can be assigned to a supervisor position for each ACD DN. The lamp state of the Display Waiting Calls (DWC) key corresponds to the lamp state of the Calls Waiting (AWC) key. This gives the supervisor an indication of when to use the Interflow (ENI) key. A maximum of eight DWC key appearances per queue are allowed. The Display Waiting Calls key shows a count of calls waiting that includes all calls in queue that have not been presented to an agent.

The information on the Display Waiting Calls key is updated every time the key is pressed.

When the DWC key is used, the display on the telephone follows this format:

aaa—bbb—ccc—ddd

Legend:

aaa = all calls in queue

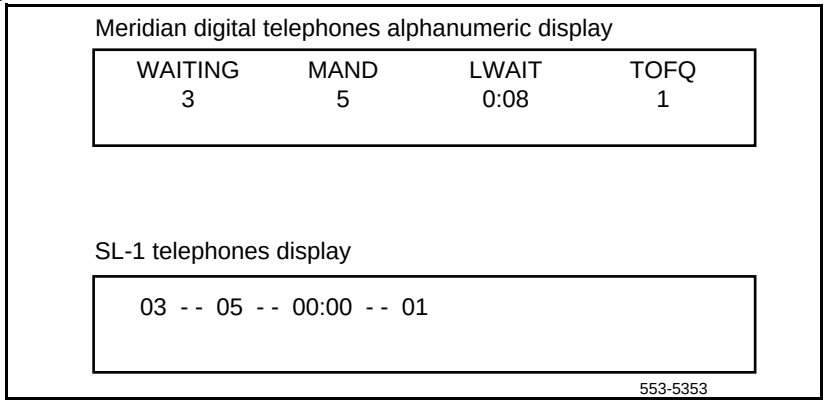
bbb = number of positions occupied for that ACD DN

ccc = waiting time for the oldest call in queue

ddd = number of TOF calls aimed at the Source ACD DN queue, the sum of all calls that *could* flow into that Source queue

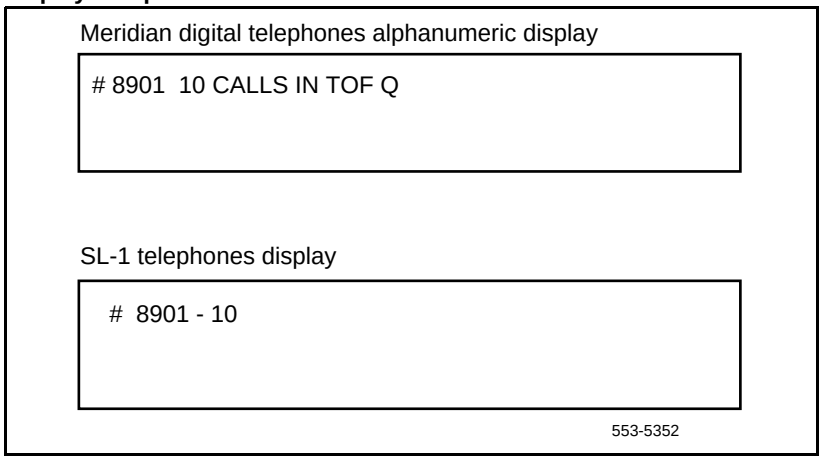
The ddd field indicates how many calls are in other TOF queues that target this ACD DN. The ddd field does not include the number of TOF calls in its own queue because that amount is already included in the aaa field. Figure 16 shows DWC display examples. A ddd of zeros indicates one TOF call is aimed at this ACD DN from another queue.

Figure 16
DWC display examples



To determine the actual number of TOF calls in any source queue, the supervisor presses the Display key, octothorpe (#), followed by an ACD DN. The system displays how many calls that ACD DN has in its TOF queue. Supervisors can see how many calls are in their own TOF queue by entering their own ACD DN. Figure 17 shows the display comparisons.

Figure 17
Display comparison



Calls Waiting Indication

The Calls Waiting Indication (AWC) lamp on the agent position informs the agent that the number of calls in the queue meets or exceeds a threshold value, and the call handling rate should be increased. The light states on these keys are used to indicate different conditions relating to Automatic Overflow.

With TOF, the lamp states include this ACD DN's TOF queue when counting the number of calls waiting. These lamps have four states:

— **Dark** The calls waiting in this ACD DNs high-priority, non-priority, and TOF queues are less than the Call Waiting Threshold (CWTH).

— **Steadily lit** The number of calls waiting in the high-priority, non-priority, and TOF queues equals or exceeds the Call Waiting Threshold (CWTH) or the Call Waiting Lamp Flash (CWLF), but is less than the Busy Threshold (BYTH). This ACD DN can receive Automatic Overflow calls, as in normal operation.

— **Fast flash** Some calls are waiting and may be overflowing to another ACD DN. The total number of calls waiting meets or exceeds the Overflow Threshold (OVTH) or the Call Waiting Lamp Wink. When an ACD DN is in this Overflow state, all new incoming calls are diverted to a Target queue, if one is available.

— **Flash** The number of calls waiting in the high-priority, non-priority, and TOF queues meets or exceeds the Busy Threshold (BYTH) or the Call Waiting Lamp Flash (CWLF), but is less than the Overflow threshold (OVTH). The ACD DN cannot receive Automatic Overflow calls from other queues.

ACD Ring Again

Ring Again allows an internal telephone call originator to have on-hook queuing. A special ring-back tone is returned before RAN or Music is played. When the Ring Again key is activated, the call is placed in the queue and the originating telephone is then free to make and receive other calls. Only internal calls can activate Ring Again.

When Ring Again is applied to a call, that call is not eligible for Time Overflow.

Call Park

Calls parked by agents are not eligible for Time Overflow. However, if a target agent parks a call after Automatic or Time Overflow, it recalls back to the target agent who parked it, if available. If the parking agent is not available, it recalls to the Source queue.

Call Party Name Display (CPND)

This feature operates on telephones with alphanumeric display with CNDA Class of Service only. When a target agent answers a TOF call, the originating DN or Trunk Access Code displays, as well as the source DN and name. The originating telephone display shows the CPND name associated with the terminating telephone.

ACD Call Supervisor

If an agent answers a TOF call and then presses the ACD Call Supervisor key, the agent is connected with the assigned supervisor, and not the supervisor of the overflowed queue from which the TOF call was directed.

Dialed Number Identification Service (DNIS)

When a DNIS call is presented to an agent with display, the source ACD DN and DNIS number are displayed with the trunk Access Code (ACOD) and member number of the originating party.

Display

When a target agent answers a TOF call, the source ACD DN is displayed following the originating DN or Trunk Access Code. If the originating telephone has display, it shows the dialed (source) DN, the ACD DN, and the agent for the terminating agent position.

When Call Forwarding All Calls, a call is forwarded automatically and can still Time Overflow to a target ACD DN. The originating display shows the dialed DN and the final terminating DN.

ACD Message Center

An ACD Message Center is an ACD agent specially equipped with Message Indication (MIK) and Message Cancellation (MCK) indicators. When a call comes into the ACD Message Center it lights the MIK lamp. The agent answers the call and writes down the message.

By pressing the MIK key while on the call, the Message Center agent activates the Message Waiting (MWK) lamp on the originally dialed telephone. When that telephone user presses the MWK key, it lights the Message Center agent's MCK indicator. After delivering the message, while still on the call, the Message Center agent presses the MCK key to turn off the telephone user's Message Waiting indicator. When a call to the Message Center agent time overflows, it can be answered by any of the Target queues defined for that telephone.

— An Integrated Message Center (IMS) is similar to the ACD Message Center in the operation and function of the MIK, MCK, and MWK key/lamp pairs. When a call going to an ACD DN with IMS applications time overflows, the call can be answered by any agent in the Target queues.

— The Integrated Voice Message System (IVMS) operates much the same as IMS. Within the IVMS environment, if a call to an ACD DN time overflows, it can be answered by any agent in the target queues. It is recommended that IVMS ACD DNs also have target DNs within the IVMS environment.

— Telset messaging is supported by IMS/IVMS applications. While a call is active in Telset Messaging, it remains in the queue working up to the front of the queue. However, that call is not eligible for answering by an agent even if it is in the front of the queue. When Telset messaging is complete, the queue timer for that call is reset because the call was unavailable for ACD service.

— A call in the low-priority queue active in Telset messaging is not eligible for Time Overflow treatment until after Telset Messaging is complete. The TOF Timer is reset when the caller dials "0" to signal the caller is now available for ACD service. Calls in the high-priority queue are not eligible for Telset Messaging.

Note: Calls in the TOF queue are not eligible for Telset Messaging.

Multi-Tenant Services

Sites with Multi-Tenant services and Overflow must have source and target agents assigned the same tenant number. If they are not, an agent may be presented with an unanswerable call. Because Time Overflow calls are not put into target queues but can be presented to target agents, an agent can be presented with an unanswerable call. The call is unanswerable because target agents cannot answer a call arriving on another tenant's trunks.

Night Service Treatment

When all agents for a particular ACD DN activate the Make Set Busy (MSB) key, or the supervisor activates the Night Service (NSVC) key, that ACD DN is in the Night Service Mode. When a queue is in Night Service, the following interactions apply:

— Calls in the TOF queue:
A TOF call can be answered by one of the target ACD DNs or routed for regular Night Service treatment, whichever comes first.

— Calls in high-priority or non-priority queues:
Waiting calls that are not in the TOF queue receive Night Service treatment defined for the source ACD DN. If a call overflows by count into the Target queue, and the source ACD DN goes into Night Service, the call does not Time Overflow back to the source ACD DN.

— New calls to the queue:
New incoming calls are redirected for Night Service treatment. If Night Service is not defined, the calls are not eligible for Time Overflow.

Recorded Announcement (RAN)

When a call overflows by time or count to a target ACD DN, the RAN or Music specified for the source ACD DN remains in effect for all overflowed calls. With First RAN On Arrival enabled (FROA = YES), the RAN is connected when the call enters the queue. When FROA = NO, the RAN is not sent out until the First RAN Timeout (FRRT) has expired. Refer to *Features and Services* (553-3001-306) for additional information on RAN.

Operating parameters

The Time Overflow Timer (TOFT) must be defined to give calls overflow treatment into the timed queue. However, an agent can still answer TOF calls as the target DN for another ACD DN. Incoming calls can be given Time Overflow treatment only if the source ACD DN has a defined TOFT.

If the TOFT is defined but the ACD DN is not configured as the target DN for any other source DN, agents can only answer TOF calls from their own TOF queue.

— Each target ACD DN can answer TOF calls for up to six source ACD DNs.

— With Enhanced Overflow, each target ACD DN can answer TOF calls for up to 100 source ACD DNs if NACD is allowed. See *Network ACD: Description and Operation* (553-3671-120).

— It is not recommended to allow calls from a source ACD DN in one application to be answered by target ACD DNs in another application.

Engineering guidelines

The following guidelines are recommended for database configuration and should be followed to make this feature operate as effectively as possible.

— All agents should have a Class of Service (CLS) that allows the agent to receive incoming calls (UNR, TLD, CTD, CUN, SRE).

— All agents within the same ACD DN should have the same tenant number.

— All agents belonging to the same target ACD DN should have the same tenant number as the source ACD DN.

Data administration for TOF is provided in the *Administration* (553-3001-311)

Testing basic features

This section describes how to operate and test the Basic ACD Features.

Testing requirements

The following requirements must be met before attempting the tests in this section:

— Agent set installation must be completed as described in *Telephone and Attendant Console: Installation* (553-3001-215). See also the Nortel Networks Publication associated with your specific ACD agent sets.

— If certain incoming call types (routes) are to receive priority treatment in the call queue, calls to the ACD DN can be modified by the priority assignments. This should be taken into account during testing.

— Set up your system so that at least three or four simultaneous incoming calls to the ACD DN can be readily made by the testing personnel. This can be accomplished by the temporary assignment of tie lines from the CO or another PBX, or by other methods deemed suitable for that particular installation.

— Some tests require large numbers of calls to be placed in the ACD DN queue unless the office data is modified. To make these tests more manageable, the Service Changeable thresholds must be set to very low values. The thresholds can be reset after testing. See the *Administration* (553-3001-311).

Basic agent features

The following procedures explain how to test a basic feature on Agent sets after the system has been installed. Follow the steps here to ensure your features work properly. If any problems occur, contact your technical support personnel.

Procedure 1
Testing the Not Ready key

Step	Action	Response
1	Press the Not Ready key on all agent sets associated with the ACD DN.	The Not Ready key lamp lights steadily at all agent sets.
2	Originate a call to the ACD DN.	The calling party hears ringback tone. The call is not presented to any agent set.
3	Press the Not Ready key (deactivating the feature) on one agent set.	The Not Ready key lamp goes dark. Tone ringing is heard at the agent set. The In Calls key lamp flashes.
4	Press the Not Ready key (deactivating the feature) on another ACD set.	The Not Ready key lamp goes dark.
5	Operate Not Ready key released in step 3, reactivating the Not Ready feature.	Tone ringing stops. The In Calls key lamp goes out. The Not Ready key lamp lights steadily. Tone ringing is heard at agent idled in step 4. The In Calls key lamp flashes at agent set (step 4).
6	Answer the call presented to the ACD set.	Ringing stops. The In Calls key lamp lights steadily. Voice connection between caller and ACD position is established.
7	Press the Not Ready key to disconnect the call.	Voice connection is broken. The In Calls key lamp is dark. Not Ready key lamp lights steadily.
8	Release Not Ready key at all sets, and idle all ACD sets.	All Not Ready key lamps go out. All agent set lamps go out. All agent set keys are deactivated.

Note: Tone ringing is replaced by a three-second buzz tone if agent sets are using headset or plug-in handset.

Procedure 2
Testing the digit display

Step	Action	Response
1	Originate a call to the ACD DN.	The In Calls key lamp flashes. One agent set hears tone ringing. Digit display shows — calls within the system • DN of the calling party — calls external to the system • trunk access code number (trunk route member number of the incoming call allowing the agent to give proper answer treatment) • trunk member number identifying a specific trunk within the group of trunks (may be used for identifying faulty trunks)
2	Agent answers the call.	The In Calls key lamp lights steadily. Ringing tone stops. A two-way voice connection is established. Display remains lit, showing the trunk access code number and trunk member number, or the DN of the calling party.
3	Both parties disconnect.	The In Calls key lamp goes out. Display goes out.
4	Repeat steps 1 through 3 until a call has been presented to each ACD set.	

Note: If agent sets are equipped for headset or plug-in handset operation, tone ringing is replaced by a three-second buzz tone.

Procedure 3
Testing the Make Set Busy key

Step	Action	Response
1	Press the Make Set Busy key at all agent sets except one.	Make Set Busy lamp lights steadily at agent sets with Make Set Busy key activated.
2	Originate a call to the ACD DN.	The In Calls key lamp flashes. The agent set without the Make Set Busy lamp is lit, hears ringing tone.
3	Press Make Set Busy key at the agent set presented with the call from step 2.	The Make Set Busy key lamp lights steadily. Tone ringing stops. In Calls lamp goes out. Call is directed to night service. (See step 6.)
4	Abandon call originated in step 2. (Calling party hangs up.)	Night Service on ACD DN.
5	Be sure that all sets assigned to the ACD DN have a Make Set Busy key assigned and that it is activated.	The Make Set Busy key lamp lights steadily.
6	Originate a call to the ACD DN.	One or both of the following can occur, depending on equipped features: If night recorded announcement (RAN) equipped, the calling party hears recorded announcement. If call forward for Night Service equipped, the call is forwarded to a night number assigned for ACD.
7	Abandon the call.	
8	Deactivate all Make Set Busy keys.	The Make Set Busy key lamp on each set goes out.

Note: Call is not presented to any agent set with Make Busy key activated. Operate Make Busy key at the agent set presented with the call from step 2.

Before using your individual agent DN key, be sure at least three agent sets for the ACD DN concerned are available (for example, Make Set Busy and Not Ready lamps dark with no other features activated).

Procedure 4
Testing the agent DN key

Step	Action	Response
1	Originate a call to the ACD DN. (Do not answer the call at the agent set.)	Call is presented to the first agent, and the In Calls key lamp flashes. The first agent set hears ringing tone.
2	Press the agent DN key at the first agent set.	At the first agent set — In Calls lamp is extinguished — DN lamp lights steadily — Dial tone is heard. The call originated in step 1 is presented to the second agent terminal where • In Calls lamp flashes • Ringing or buzz tone is heard from speaker
3	At the first agent set, dial the agent DN associated with the second agent set.	Lamp associated with DN of the second agent flashes. Ringing or buzz tone is heard at the second agent set.
4	At the second agent set, press the individual agent DN key next to flashing DN lamp. The ACD call of step 1 is now presented to a third agent set.	At the second agent set — In Calls lamp extinguished — Ringing tone ceases At third agent set — In Calls lamp flashes — Ringing or buzz tone heard
5	Disconnect all calls in progress. (Release DN key at the first and second agent sets and abandon call originated in step 1.)	All agent lamps go out. All agent sets are idle.

Basic supervisor features test

These procedures explain how to use and test your basic Supervisor procedures. If any problems occur during the testing, contact your technical support personnel.

Operating the Agent key has no effect on its associated lamp. All Agent lamps are active simultaneously and are updated whenever an agent's status changes.

Procedure 5
Testing basic supervisor features

Step	Action	Response
1	Make a call to the ACD DN for the agent set concerned.	The agent hears ringing tone.
2	At ringing agent set, either go off-hook or press In Calls key.	Ringing stops. At the ACD supervisor set, the Agent lamp associated with the answering agent is steadily lit (indicating busy on ACD call).
3	At agent set, press the Not Ready key.	At the agent set, the In Calls lamp goes dark, and the Not Ready key lights. At supervisor set, the Agent lamp is still steadily lit (indicating busy on ACD call).
4	At agent set, press the Not Ready or the In Calls key. Do not make any calls to the ACD DN.	At the agent set, the Not Ready lamp goes out. At the supervisor set, the Agent lamp flashes (indicating waiting for ACD call).
5	At the agent set, press the agent DN key.	At the agent set, dial tone is heard. At the supervisor set, the Agent lamp flashes (indicating busy on non-ACD call).
6	Put the agent in unstaffed state by going on-hook, and pressing the Make Set Busy key.	At the agent set, the Make Set Busy lamp lights. At the supervisor set, the Agent lamp is dark (indicating agent set not staffed).

Procedure 6
Testing the Display Agent key

Step	Action	Response
1	Make various sets in the ACD queue busy on ACD calls, waiting for ACD calls, busy non-ACD calls, and unstaffed (see Procedure 4).	
2	Press the Display Agents key on the supervisor set.	The digit display shows the number of agents reporting to this supervisor in each of 4 reported states when the Display Agents key is pressed. The display looks like AA-BB-CC-DD AA = number of agents busy on ACD calls (including the agents in post-call work time and the supervisor). BB = number of agents waiting for ACD calls off-hook, or In Calls key pressed. CC = number of agents busy on non-ACD Calls. DD = number of unstaffed agent sets. The sum of these numbers equals the number of Agent keys assigned to this supervisor set. It also includes the supervisor in the total count.

Note: You must have an ACD set with digit display capability to enable this feature.

Pressing the Display Queue key activates only the Digit Display. It has no effect on the associated lamp, which is constantly updated by the system.

Procedure 7
Testing the Display Queue key/lamp

Step	Action	Response
1	Add calls to the queue, one at a time, while periodically observing the Queue lamp. Press the Display Queue key and observe the digit display.	The lamp can assume any one of the following states: — unlit • no calls in the queue are waiting for agents — lit • one or more calls are waiting for agents
2	Press Display Queue key associated with queue under test.	The digit display shows the status of the queue. The display looks like aaa = the number of calls waiting for a free agent bbb = the number of agents assigned to this queue and staffed (regardless of which supervisor they are assigned to) ccc = the length of time (in seconds) the oldest call in the queue has been waiting The Digit Display is updated each time the Display Queue key is pressed.

Basic system features

These procedures explain how to use and test your basic ACD system features. If any problems occur during testing, contact your technical support personnel.

Procedure 8
Testing the Agent Queue indication

Step	Action	Response
1	Be sure each agent set assigned to the ACD DN is idle.	No keys or lamps on the agent set are activated.
2	Originate a call to the ACD DN from an incoming trunk.	
3	Press the In Calls key to answer the call at the called agent set.	The In Calls key lamp lights steadily. Ringing stops. Voice connection is set up between the calling party and the agent.
4	Calling party and agent disconnect.	The In Calls key lamp goes out. Voice connection is broken.

Note: If agent sets are equipped with headsets or plug-in handsets, a three-second buzz tone replaces tone ringing at agent sets.

Procedure 9
Testing the Call Queue indication (Part 1 of 2)

Step	Action	Response
1	Make all agent sets assigned to the ACD DN busy for ACD calls:	The Not Ready key lamp lights steadily.
	— press Not Ready key at each set	
	— make calls to ACD DN until each set is busy	The In Calls key lamp lights steadily. (See Procedure 7 on page 244, step 2.)
	— busy each agent set by completing calls to, or originating calls from, each agent DN	The DN key lamp lights steadily.
2	Originate a call to the ACD DN.	The calling party hears ringback tone.
3	Make another call to the ACD DN.	The calling party hears ringback tone.
4	Make one agent available to receive ACD calls (see step 1).	Lamp lit in step 1 goes dark. The agent set hears ringing tone. The In Calls key lamp flashes.
5	Press the In Calls key to answer the call.	The In Calls key lamp lights steadily. Ringing stops. Two-way voice connection established.

(Part 1 of 2)

Procedure 9
Testing the Call Queue indication (Part 2 of 2)

Step	Action	Response
6	Press the Release key to disconnect from the call. Do not answer the next call at this time.	The In Calls key lamp goes out, then flashes again. The agent set hears ringing tone.
7	Originate a call to the ACD DN.	The caller hears ringback tone.
8	At the agent set with the In Calls key lamp flashing, press	The In Calls key lamp goes out, and in addition:
	— the Not Ready key	The Not Ready key lamp lights steadily.
	— the Make Set Busy key	The Make Set Busy key lamp lights steadily.
	— the DN key	The DN key lamp lights steadily.
9	Allow an ACD to another agent set.	Lamp lit in step 1 goes out. The In Calls key lamp flashes. The agent hears ringing tone.
10	Answer the new call at agent set.	The In Calls key lamp lights steadily. Ringing stops. A two-way voice connection is established.
11	Disconnect all calls, and make all agents idle.	No keys or lamps are activated at any agent set.

Note: If equipped with recorded announcement (RAN), calls originated in step 3 may receive announcement.

(Part 2 of 2)

Before using your Recorded Announcements (RANs), take note of the first and second RAN times in effect for the ACD DN under test. Put all the agent sets on the ACD DN into the Not Ready state. Make sure that at least one agent set is not in the Make Set Busy state.

Procedure 10
Testing the Recorded Announcement

Step	Action	Response
1	Make a call to the ACD DN. Caller hears ringback.	After the first RAN time has elapsed, the caller hears the first RAN. After the second RAN time has elapsed, the caller hears the second RAN. The second RAN is repeated at each "second RAN time" interval.
2	Press the Not Ready key on one agent set.	The call is presented on the In Calls key of the terminal.
3	Answer the call at the agent terminal. (Go off-hook, and press the In Calls key.)	A two-way conversation is established.
4	Without terminating the call in step 3, make a second call to the ACD DN.	Caller hears ringback, then first RAN, then second RAN as in step 1.
5	Release both calls.	Both agent sets are idle.

Note: RAN delays will be greater than the thresholds assigned in LD 23 (FRT, SRT) if the "delayed start" option is in effect. See the *Administration* (553-3001-311).

Procedure 11
Testing the Priority trunks

Step	Action	Response
1	Make all agent sets assigned to the ACD DN busy to ACD calls — Operate the Not Ready key at each set. (Ensure that at least one agent set has the Make Set Busy key deactivated.) — Complete non-priority calls to ACD DN until each set is busy. The In Calls key lamp lights steadily. — Busy each agent by completing calls to each agent DN.	The Not Ready key lamp lights steadily. The DN key lamp lights steadily.
2	Make a non-priority call to the ACD DN.	The calling party hears ringback.
3	Make a priority call to the ACD DN.	The calling party hears ringback.
4	Make one agent available to receive ACD calls (see step 1).	Lamp lit in step 1 is extinguished. Tone ringing is heard at the agent set. The lamp associated with In Calls lamp flashes (60 ipm).
5	Answer the call ringing at the agent set.	The In Calls key lamp lights steadily. Ringing stops. A two-way voice connection is established.
6	Release the priority call.	The non-priority call is presented to the same agent set. Ringing is heard at the agent set, and the In Calls lamp flashes.
7	Answer the call.	A two-way conversation. The In Calls lamp lights steadily.
8	Make all agent positions idle.	

Note 1: If equipped with record announcement (RAN), calls originated in steps 2 and 3 may receive announcement.

Note 2: If agent sets are equipped with headsets or plug-in handsets, tone ringing is replaced by a three-second buzz tone.

Testing advanced features

This section describes how to operate and test the Advanced ACD Features.

Note: Information presented in this section assumes that the operation of the ACD Basic Features, described in the preceding section, has been successfully completed.

Testing requirements

The following requirements must be met before attempting the tests in this section:

— Agent set installation must be completed as described in *Telephone and Attendant Console: Installation* (553-3001-215). See also the Nortel Networks Publication associated with your specific ACD Agent sets.

— If certain incoming call types (routes) are to receive priority treatment in the call queue, calls to the ACD DN can be modified by the priority assignments. This should be taken into account during testing.

— Set up your system so that at least three or four simultaneous incoming calls to the ACD DN can be readily made by the testing personnel. This can be accomplished by the temporary assignment of tie lines from the CO or another PBX, or by other methods deemed suitable for that particular installation.

— Some tests require large numbers of calls to be placed in the ACD DN queue unless the office data is modified. To make these tests more manageable, the Service Changeable thresholds may be set to very low values. The thresholds can be reset after testing. See the *Administration* (553-3001-311)

Advanced agent features

The following procedures explain how to test an advanced feature on Agent sets after the system has been installed. Follow the steps below to ensure that your features work properly. If any problems occur, contact your technical support group.

Procedure 12
Using the Call Supervisor key

Step	Action	Response
1	If there is no call currently active on the In Calls key, lift the handset or plug in the headset and press the Call Supervisor key.	The Call Supervisor key lamp lights steadily. Ringback tone is heard if the supervisor is idle; busy tone is heard if the supervisor is busy.
	If there is a call on the In Calls key, press the Call Supervisor key.	The calling party is put on hold (the In Calls lamp flashes). The Call Supervisor key lamp lights steadily. Ringback or busy tone is heard.
2	The supervisor answers the call (Procedure 5 on page 242).	Two-way conversation between the ACD agent and supervisor.
3	When the conversation is complete, the agent can either go on-hook or press the Release (RLS) key.	The Call Supervisor key lamp goes dark.
4	To add the calling party to the agent/supervisor conversation, press the Call Supervisor key again.	The calling party is bridged into the conversation; the Call Supervisor lamp goes dark, and the In Calls lamp lights steadily.
5	To transfer the calling party to the supervisor, press the Release (RLS) key.	The agent is removed from the conversation, and the In Calls lamp goes dark.

Note: If the supervisor initiates a call to the agent (Call agent key—Procedure 4 on page 241), the call is presented (flashing lamp) and answered via the Call Supervisor key.

Procedure 13
Using the Emergency key

Step	Action	Response
1	A call established on the In Calls key is deemed an emergency call.	The In Calls lamp lights steadily and a two-way conversation with the calling party is established.
2	Press the Emergency key.	Ringback tone is heard over the two-way conversation. The Emergency lamp — remains dark if neither the assigned supervisor nor recording device is available — flashes if either the assigned supervisor or recording device is available
3	The assigned supervisor and/or recording device is bridged into the conversation.	The Emergency lamp lights steadily.
4	If a recorder and/or teletype is equipped, the following occurs:	
	— the recorder records the conversation	The conversation is heard when the recorder is played back.
	— the teletype prints the call data	One or more of the following messages is printed: (See the Note following this procedure.) EMR100 RC L S C U RR MMM EMR100 AG XXXX YYYY EMR100 OR LSCU RR MMM

(Part 1 of 2)

Procedure 13
Using the Emergency key

Step	Action	Response
Note: EMR100 messages are interpreted as follows: RC = the recording trunk used for the emergency recorder L S C U are the loop, shelf, card, and unit used for the recording trunk. RR and MMM are the route and member numbers of the recording trunk. AG = shows that an agent pressed the Emergency key XXXX denotes the ACD DN to which the agent is assigned. YYYY denotes the agent POS-ID. The ACD DN and the POS-ID digits, for software programming reasons, are listed backward, and the character “A” signifies a “0” and the digit “0” signifies the end of the number. For example, the ACD DN “01A4” would denote “401” and POS-ID “5412” would denote “2145.” OR = the originator of the call L S C U are the loop, shelf, card, and unit of the call origin. RR and MMM parameters denote the route and member numbers of the trunk. If the call is originating from within the system, these two fields are absent.		

(Part 2 of 2)

Advanced supervisor features

The following procedures explain how to test an advanced supervisor feature on Agent sets after the system has been installed. Follow the steps below to ensure that your features work properly. If any problems occur, contact your technical support group.

Procedure 14
Using the Observe agent key

Step	Action	Response
1	Press the Not Ready key.	The Not Ready lamp lights steadily.
2	Press the Observe Agent key.	The associated lamp lights steadily.
3	Press an Agent key associated with the lit lamp (indicating the agent is involved with an ACD call).	The conversation between the selected agent and calling party is heard. The digit display shows the POS-ID of the selected agent.
4	Press the Call Agent key to enter the conversation between the agent and calling party.	The Call Agent lamp lights steadily. A three-way conversation between supervisor, agent, and calling party is established.
	To leave the observation mode, press the Observe Agent (or Not Ready) key.	Conversation between the agent and calling party can no longer be heard. The Observe agent (or Not Ready) lamp goes dark.

Note: The supervisor can monitor selected agents, one at a time, by pressing different Agent keys.

Procedure 15
Using the Call Agent key

Step	Action	Response
1	Press the Not Ready key.	The Not Ready lamp lights steadily.
2	Press the Call Agent key.	The associated lamp lights steadily.
3	Press the Agent key associated with the agent to be called.	The digit display shows the POS-ID of the selected agent; ringback tone is heard. When the called agent answers, a two-way conversation is established.
4	To end the call, press the Call Agent (or Not Ready) key.	Conversation is ended, and the Call Agent (or Not Ready) lamp goes dark.

Note: The supervisor can call selected agents, one at a time, by pressing different agent keys.

Procedure 16
Using the Answer Agent key

Step	Action	Response
1	An ACD agent has pressed the Call Supervisor key.	The associated supervisor set hears ringing, and the Answer Agent lamp flashes.
2	Press the Answer Agent key.	Ringing stops, and the Answer Agent lamp goes dark. A two-way conversation between the calling agent and supervisor is established.
3	To end the call, press the RLS key.	The associated lamp goes dark.

Procedure 17
Using the Answer Emergency key

Step	Action	Response
1	An agent has received a call and pressed the Emergency key.	The associated supervisor set hears continuous ringing. The Answer Emergency lamp flashes.
2	Press the Answer Emergency key. If engaged with a call, press Hold key first.	Continuous tone ringing stops, and Answer Emergency lamp lights steadily. A three-way conversation between supervisor, agent, and calling party is established. Digit display shows POS-ID of involved agent.
3	To end the call, press the RLS key.	Call ended, and the Answer Emergency lamp goes dark.

Note 1: Once released from an emergency call, the supervisor cannot return to it. However, the emergency call can be placed on hold by pressing the Hold key.

Note 2: Once the supervisor has released from the emergency call, the agent cannot reinitiate emergency status for the same call.

Note 3: A “Listen-only” connection to the emergency call can be established by unplugging the headset/handset before pressing the Answer Emergency key.

Procedure 18
Using the Interflow key

Step	Action	Response
1	Call the Interflow destination to ensure it is ready and able to accept additional calls.	
2	Press the appropriate Interflow key.	The associated lamp flashes.
3	Press the Interflow key again to disable the interflow feature.	The associated lamp goes dark.

Note 1: Use the Display Queue key/lamp to determine when Interflow is be used and for which ACD DN.

Note 2: With Interflow enabled, calls are only forwarded to the Interflow destination when the number of calls waiting in the ACD DN queue exceeds the overflow threshold and no other target queue is specified or available through automatic overflow.

Procedure 19
Observing an ACD Agent

Step	Action	Response
1	Press the Not Ready key.	The Not Ready lamp lights steadily.
2	Press the Observe Agent key.	The Observe Agent lamp lights steadily.
3	Dial the Position-ID (POS-ID) of the agent to be observed.	The conversation between the selected agent and calling/called party is heard. The digit display shows the POS-ID of the agent. If the agent is already being observed by another supervisor, busy tone is heard. If the dialed POS-ID is invalid or the set is not an ACD set, overflow tone is heard.
4	To enter the conversation between the agent and caller, press the Call Agent key.	The Observe Agent lamp flashes. A conference between supervisor, agent, and caller is established.
5	Press the Observe Agent key to exit the observation mode.	The conference ends. Observe agent lamp goes dark.
6	Press the Not Ready key to resume normal ACD operation.	The Not Ready lamp goes dark. The set can now receive ACD calls.

Procedure 20
Observing an ACD Supervisor

Step	Action	Response
1	Press the Not Ready key.	The Not Ready lamp lights steadily.
2	Press the Observe Agent key.	The Observe Agent lamp lights steadily.
3	Dial the POS-ID of the supervisor to be observed.	The conversation between the selected supervisor and calling/called party is heard. The digit display shows the POS-ID of the supervisor. Busy tone is heard if the selected supervisor is observing another agent or supervisor. If the POS-ID is invalid or if the set is not an ACD set, overflow tone is heard. If the set attempting to observe a supervisor is not assigned an Allow Observation of Supervisor class of service, overflow tone is heard.
4	Press the Call Agent key to enter the conversation between the supervisor and connected party.	The Observe Agent lamp flashes. A conference between observing supervisor, observed supervisor, and connected party is established.
5	Press the Observe Agent key.	The conference ends. Observe Agent lamp goes dark.
6	Press the Not Ready key to resume normal ACD operation.	The Not Ready lamp goes dark. The set can now receive ACD calls.

Procedure 21
Calling an ACD Agent

Step	Action	Response
1	Press the Not Ready key.	The Not Ready lamp lights steadily.
2	Press the Call Agent key.	The associated lamp lights steadily.
3	Dial the POS-ID of the agent to be called.	If agent is idle, the agent's set rings, and the Supervisor lamp flashes. If the agent is conversing with another supervisor by the Supervisor key, busy tone is heard. If the agent is conversing on a key other than the In Calls or Supervisor key, the agent hears buzz.
4	Agent presses Supervisor key to answer the call.	The Supervisor lamp at the agent's set lights steadily. Conversation between agent and supervisor is established.
5	Press the Call Agent (or RLS) key to terminate the call.	Conversation ends. Call Agent lamp goes dark.

Advanced system features

The following procedures explain how to test an advanced system feature on Agent sets after the system has been installed. Follow the steps below to ensure that your features work properly. If any problems occur, contact your technical support personnel.

Procedure 22
Logging on an ACD set with the Agent ID option

Step	Action	Response
1	Occupy an unstaffed ACD position. Be sure the headset/handset is unplugged from the set, then press the In Calls key.	
2	Plug in the headset/handset.	Access to all features, except receiving calls on the In Calls key, is allowed from the set.
3	Press the In Calls key of the set.	The In Calls key lamp remains unlit. The Not Ready key lamp lights. The Make Set Busy key lamp goes out if it was previously lit. The ACD DN and supervisor position to which the agent position is assigned are shown on the set's digit display. The position is now logged in and can access all ACD features.

Procedure 23
Logging on an ACD set without the Agent-D option defined

Step	Action	Response
1	Occupy an unstaffed ACD position. Be sure the headset/handset is unplugged from the set, then press the In Calls key.	
2	Plug in the headset/handset.	Access to all features, except receiving calls on the In Calls key, is allowed from the set.
3	Press the In Calls key of the set.	The In Calls key lamp lights and a special (interrupted) dial tone is heard.
4	Key in the assigned 4-digit Agent ID code on the dial pad of the set. Note the following:	
	The Agent ID code is within range, and no one else is already logged in with that code.	The In Calls (and MSB, if previously lit) key goes out, the NRD key lights, and the ACD DN and supervisor positions are shown in the Digit Display. The set is now logged on and can access all the ACD features.
	The Agent-D code is out of range, or the normal timeout elapsed before all four digits have been keyed in.	Overflow Tone is heard and, after normal timeout of overflow tone, the In Calls key lamp goes blank. Repeat the log on procedure.
	Someone else is currently logged on with that Agent ID code.	Busy tone is heard, and the In-Calls lamp goes out after the normal busy tone timeout.

Procedure 24
Logging out from an ACD set

Step	Action	Response
1	Occupy an agent position that is currently logged in but	
	has no call active on the set	All the feature keys are unlit.
	has no calls held on the set	The In Calls or DN key lamp is dark.
2	If Make Set Busy is not equipped, unplug the headset from the set or place the handset on-hook.	The set is now logged out. This assumes that agents are allowed to log out by unplugging the headset/handset.
	If Make Set Busy is equipped, press the Make Set Busy key.	Make Set Busy key lamp lights, and the set is logged out.

Procedure 25
Walkaway/Return ACD Set

Step	Action	Response
	Walkaway from the set	
1	Using Procedure 11 on page 249, log on to an unoccupied agent position.	The Not Ready key lamp lights.
2	Press the Not Ready key to allow ACD calls to be presented to the position.	The Not Ready key lamp goes out.
3	With Manual-answer, when an ACD call is presented to the position, press the In Calls key to answer the call.	Ringing stops, the In Calls key lamp lights steadily, and a voice path is established between you and the calling party.
	With Call Forcing, when an ACD call is presented to the position, you will hear a 500-millisecond buzz and then be connected to the calling party.	The In Calls key lamp lights steadily, and a voice path is established between you and the calling party.

(Part 1 of 2)

Procedure 25
Walkaway/Return ACD Set

Step	Action	Response
4	Inform the calling party that you are about to leave the line momentarily, then press the Hold key.	The In Calls key lamp flashes indicating the calling party is on hold.
5	Unplug the headset/handset from the set.	The In Calls key lamp on the set continues to fast flash.
	Return to the set	
6	Plug the headset/handset into the set.	The In Calls key lamp continues to fast flash.
7	Press the In Calls key.	The In Calls key lamp lights steadily. Voice communication is reestablished between you and the calling party.

Note 1: The procedures in this chart also apply to calls originated from or received on the DN key of the set. Walkaway and return are also possible when the set is in the Not Ready state; i.e., the Hold key is operated when the Not Ready key lamp is lit. In either case, the DN key lamp or Not Ready key lamp will change from steadily lit to flashing when the Hold key is pressed, and the headset/handset is unplugged from the set.

Note 2: If the calling party disconnects while the agent is in walkaway, the In Calls key lamp goes dark and the Not Ready key lamp flashes. When the agent returns from the walkaway and plugs the headset/handset into the set, the Not Ready key lamp lights steadily. The agent must press the In Calls or Not Ready key to reenter the agent queue.

Note 3: With Flexible Call Force, the 500-millisecond buzz is not heard.

(Part 2 of 2)

Procedure 26
DN key activation for ACD sets

Step	Action	Response
1	Occupy an agent position that is currently logged in.	All active features operate as usual.
2	Press a DN key (not an ACD DN key) to do the following:	
	— initiate a call	The associated lamp indicator is lit and you hear dial tone.
	— answer a non-ACD call	Ringing stops, and the lamp lights steadily.

Note: The same results will occur for step 2 if the procedure for step 1 is "Occupy an agent position that is not restricted from using DN keys when logged out (or logged in)."

List of terms

This section provides an alphanumeric list of the mnemonics used in this document and their related terms.

AAA

Attendant Alternate Answering

ACA

Automatic Call Answer

ACD

Automatic Call Distribution system

ACD-A

ACD Package A, Basic Features (minimum for ACD service)

ACD-B

ACD Package B, Advanced Features

ACD-C1

ACD Package C1, Load Management

ACD-C2

ACD Package C2, Enhanced Load Management

ACD-D

ACD Package D, Enhanced Management Displays (with ADS)

ACD DN

ACD Directory Number

ACOD

Access Code

ADM

Add-on Data Module

ADS

Auxiliary Data System

AGT

ACD Agent key identifier

AID

Agent ID mode

AIOD

Automatic Identification of Outward Dialing

AML

Application Module Link

ANI

Automatic Number Identification

APL

Auxiliary Processor Link

ARC

Attendant Recall key

APL

Auxiliary Processor Link

ASP

ACD Supervisor key

AUX

Auxiliary Processor

AWC

Agent Calls Waiting lamp

BACD

Base ACD

BARS

Basic Alternate Route Selection

BRI

Basic Rate Interface

BSY VRF

Busy Verify

BYTH

Busy Threshold

CBQCM

Call Back Queuing to Conventional Main

CCBQ

Coordinated Call Back Queuing

CCR

Customer Controlled Routing

CCRM

Customer Controlled Routing Module

CDN

Control Directory Number

CDR

Call Detail Recording

CFNA

Call Forward No Answer

CLID

Calling Line Identification

CLS

Class of Service

CPND

Call Party Name Display

CO

Central Office

CNDA

Call Party Name Display Allowed

CWLF

Calls Waiting Lamp Flash threshold

CWLW

Calls Waiting Lamp Fast Flash threshold

CWTH

Calls Waiting Threshold

Data Agent

Agent station assigned to an ADM

DAL

Data Agent Log in with MSB option

DCP

Direct Call Processing

DDSP

Digit Display

DID

Direct Inward Dialing

DISA

Direct Inward System Access

DN

Directory Number

DND

Do Not Disturb

DNIS

Dialed Number Identification Service

DSP

Display key

DWC

Display Waiting Calls (supervisor Display Queue key)

EAR

Enhanced ACD Routing

EMR

Emergency key

ENI

Enable Interflow key

EOVF

Enhanced Overflow

ESN

Electronic Switched Network

FCF

Flexible Call Force

FDN

Forward DN

FEX

Foreign Exchange route or trunk

FORC

Call Forcing

FROA

First RAN On Arrival

FRRT

First RAN Route

FRTT

First RAN Route Timer

FX

Foreign Exchange route or trunk

HOT

Hot Line

HPQ

High Priority Queue

IANI

In-Band ANI

IDC

Incoming Digit Conversion

IDN

Individual Directory Number

IFDN

Interflow Directory Number

IMS

Integrated Messaging System

I/O

Input/Output port or features

ISDN

Integrated Digital Network Services

ISM

Incremental Software Management

IVMS

Integrated Voice Messaging System

LAGP

List Agent Priority

LCD

Liquid Crystal Display

LED

Light Emitting Diode

MADN

Multiple Appearance Directory Number

MAXP

Maximum Positions assigned

MCK

Message Cancellation key

MCR/MCN

Multiple Call Ringing/Non-ringing

MEM

Trunk Member number

MIK

Message Indication key

MSB

Make Set Busy

MURT

Music trunk Route

MUS

Music On Delay

MWK

Message Waiting key

NARS

Network Alternate Route Selection

NCFW

Night Call Forward

NCT

Network Call Trace

NCWL

New Call Waiting Lamp

NFCR

New Flexible Code Restriction

NITE

Night Forwarding number

NRAG

Network Ring Again

NRD

Not Ready

NRRT

Night RAN Route

NSVC

Supervisor control of Night Service

OBTN

Observation Tone

OBV

Observe Agent key

OCN

Original Called Number

OHQ

Off-Hook Queue

OVBU

Overflow Busy treatment for Supervisor Control of Queue Size

OVDN

Overflow DN

OVTH

Overflow Threshold

PBX

Private Branch Exchange

PCP

Post-Call Processing

POS-ID

ACD agent Position Identifier

PRI

Priority Agent

PVR/PVN

Private Line Ringing/Non-ringing

RAC

Route Access

RAG

Call Agent key

RAN

Recorded Announcement

RDB

Route Data Block

RGA

Ring Again

RLDN

Release Link trunk DN

RLS

Release key

RPRT

ACD Report Control

SAGP

Select Agent Position

SAPA

Set Agent Priority

SCR/SCN

Single Call Ringing/Non-ringing

SDI

Serial Data Interface port or card

SDNB

Secondary DN Call Blocking

SIG SRC

Signal Source key

SPCP

Separate Post-Call Processing

SPRI

Set Agent Priority assignment

SQ 01

Queue one (for Automatic Overflow)

SQ 02

Queue two (for Automatic Overflow)

SQ 03

Queue three (for Automatic Overflow)

SRRT

Second RAN Route Assignment

SRTA

Set Route and Trunk Assignment

SRTO

Second RAN Route Time

STOT

System Totals report

TGAR

Trunk Group Access Restriction

TLDA

Calls Waiting Threshold

TLDB

Busy Threshold

TLDC

Overflow Threshold

TLDD

Time Overflow Threshold

TOF

Time Overflow

TOFT

Time Overflow Timer

TRC

Malicious Call Trace key

TSF

Telephone Service Factor

TSFT

Telephone Service Factor Timer

TTD

Telecommunications Terminal for the Deaf

TTY

Teletypewriter

UNR

Unrestricted Class of Service

VCC

Voice Calling

VDT

Video Display Terminal

VSID

Value Added Server ID (VAS)

WATS

Wide Area Telephone Service

Index

Numerics

500/2500 telephones
ACA interactions, 82
with AWC, 25
Hold in Queue for IVR interactions, 176
log ins, 32
with Night Mode, 35
with NRD key, 35
with RLS key, 36

A

AAA (Attendant Alternate Answering) service
CCR interactions, 108
EAR interactions, 155
AAG (Answer Agent) key, 23, 52
IANI interactions, 177
testing, 256
abandoned calls with CCR, 103
ACA (Alternate Call Answer) feature
feature interactions, 82
operation, 81
ACD Answering Time in Night Service, 61
ACD Call Priority, 64
ACD Call Waiting Thresholds, 64, 66
ACD Calls on Hold, 19
ACD Dynamic Queue Threshold, 72
ACD in Night Service, 73
ACD Least Call Queuing, 74
ACD Night Call Forward without Disconnect Supervision, 75
ACD Threshold Visual Indication, 21
ACD-A package, 267
ACD/ADS software, 10
ACD-B package, 267
ACD-C1, 267
ACD-C2 package, 267
ACD-CDR Connection Record, 70
ACD-CDR Connection Records, 70
ACD-D package, 267
ACNT (Activity Code) key
IANI interactions, 178
ADD (Automatic Digit Display) feature, 146
ADM (Add-on Data Modules), 32
ADS (Auxiliary Data Systems), 10
advanced features
agent, 9
supervisor, 9
system, 9
testing, 251
Agent Display feature
CCR interactions, 107
EAR interactions, 154
agent features, 19
advanced, 9
basic, 8
testing, 238, 252
Agent keys, 37
CCR interactions, 108
EAR interactions, 155
testing, 241
Agent Observe feature, 38
feature interactions, 41
intercept treatments, 40
key for, 39
operating parameters, 42

agents
lamps, 37, 38
log ins, 32
log outs, 33
priority, 203
queues, 11, 245
status, 48
supervisor communication, 23, 52
telephone types for, 12
AGT (ACD Agent) key identifier, 38
AIOD (Automatic Identification of Outward Dialing)
with In-Calls key, 31
Allow Observation of Supervisor Class of Service, 38, 43
AML (Application Module Link)
for CCR, 94
for DNIS, 126
Hold in Queue for IVR interactions, 176
Name Display for DNIS interactions, 148
analog (500/2500 type) telephones, 12
ANI (Automatic Number Identification)
Cal Interflow interactions, 91
with In-Calls key, 31
Answer Emergency key
testing, 257
Answer supervisor key, 82
APL (Auxiliary Processor Link)
CCR interactions, 108
DNIS, 129
EAR interactions, 155
ARC (Attendant Recall) feature
CCR interactions, 109
EAR interactions, 155
IANI interactions, 178
ASP (Supervisor) key, 23
ACA interactions, 82
CCR interactions, 108
EAR interactions, 155
IANI interactions, 177
testing, 252
TOF interactions, 233
asterisks (*) in Routing by DNIS, 150
Attendant Extended Calls feature
Call Interflow interactions, 91
EAR interactions, 155
NCFW interactions, 200
Attendant Extension Calls feature
CCR interactions, 108
Attendant Overflow Position
Call Interflow interactions, 92
CCR interactions, 109
EAR interactions, 155
audible warning tones, 40
Automatic Overflow feature, 84
with AWC, 25
Call Interflow interactions, 92
with DWC, 27, 49
EAR interactions, 162
with ENI, 50
NSVC interactions, 54
and TOF, 220, 225, 227
auto-terminate trunks
CCR interactions, 109
EAR interactions, 156
AWC (Calls Waiting Indication)
with ACA, 81
advanced, 25
basic, 24
CCR interactions, 111, 120, 121
EAR interactions, 157, 161
Hold in Queue for IVR interactions, 170
NSVC interactions, 55
TOF interactions, 230

B

Barge-In feature
Agent Observe interactions, 42
CCR interactions, 109
basic features
agent, 8
supervisor, 8
system, 8
testing, 237
BCS (Business Communication Set), 145
blocked calls, SDNB interactions, 214

Busy Tone feature
with Agent Observe, 40
with Call Interflow, 89
log in, 33
Busy Verify feature
Agent Observe interactions, 42
CCR interactions, 110
EAR interactions, 156
BYTH (Busy Threshold), 85
with AWC, 25
with Call Interflow, 88
with CCR, 98
with DWC, 27, 49

C

Call Agent feature
Agent key for, 37
Agent Observe interactions, 41
testing, 256, 260
call ceilings, 153
Call Consultation feature
DNIS Across Call Modification interactions, 143
IANI interactions, 178
Call Forcing feature, 87
feature interactions, 87
with In-Keys, 32
Call Forward All Calls feature, 144
Call Forward feature
CCR interactions, 110
EAR interactions, 156
Call Interflow feature, 88
DNIS Across Call Modification interactions, 143
enhanced, 89
IANI interactions, 177
Name Display for DNIS interactions, 147
NSVC interactions, 55
operating parameters, 93
Supervisor Control of Queue Size interactions, 219
testing, 257
TOF, 221, 228
Call Park feature
DNIS Across Call Modification interactions, 144
IANI interactions, 178
TOF interactions, 233
Call Park Recall feature
CCR interactions, 110
EAR interactions, 156
NSVC interactions, 54
Call Pickup feature, 144
Call Queue indication, 246
Call Source Identification, 24
Call Transfer feature
ACA interactions, 82
Agent Observe interactions, 40, 41
CCR interactions, 110
DNIS Across Call Modification interactions, 144
DNIS interactions, 130
EAR interactions, 156
Hold in Queue for IVR interactions, 175
IANI interactions, 178
NCFW interactions, 200
NSVC interactions, 55
Supervisor Control of Queue Size interactions, 218
Calling Party Number key, 144
Calls on Hold feature, 144
Calls Waiting Indication (AWC)
TOF interactions, 232
CAS (Centralized Attendant Service) feature
CCR interactions, 112
EAR interactions, 157
Supervisor Control of Queue Size interactions, 218
CBQCM (Call Back Queuing to Conventional Main), 201
CCBQ (Coordinated Call Back Queuing), 201

CCR (Customer Controlled Routing), 94
capacity impacts, 106
controlled mode operation, 96
error detection, 104
feature interactions, 107
feature requirements, 125
force requests, 102
music requests, 100
operating parameters, 106
priority, 97
queue length, 98
queue requests, 96
RAN requests, 99
route requests, 102
scripts, 96
tone requests, 100
CCRM (Customer Controlled Routing Module), 94
CDN (Control Directory Number)
conference to, 176
with EAR, 152
maximum, 12
transfer to, 175
CDR (Call Detail Recording)
with DNIS, 146
with In-Calls key, 31
CFNA (Call Forward No Answer) feature, 144
Charge key, 144
CLID (Calling Line Identification) feature
CCR interactions, 110
DNIS Across Call Modification interactions, 144
Name Display for DNIS interactions, 148
NCFW interactions, 200
CLS (Class of Service)
Call Interflow interactions, 92
supervisor observation, 38, 43
CNDA (Called Party Name Display Allowed), 146
CO trunks, CCR interactions, 112
Command and Status Link package, 95
commands, CCR, 96
communication, agent and supervisor, 23, 52
Conference features
ACA interactions, 82
Agent Observe interactions, 40, 41
DNIS Across Call Modification interactions, 145
with EMR key, 29
Hold in Queue for IVR interactions, 176
IANI interactions, 178
Name Display for DNIS interactions, 148
Supervisor Control of Queue Size interactions, 218
three-party communication, 24
Connection Records, 70
CPND (Call Party Name Display) feature
CCR interactions, 110
EAR interactions, 156
TOF interactions, 233
customer night numbers
CCR interactions, 112
EAR interactions, 157
CWLF (Calls Waiting Lamp Flash) threshold
with AWC, 25
with DWC, 27, 49
CWLW (Calls Waiting Lamp Fast Flash) threshold
with AWC, 25
with DWC, 27, 49
CWTH (Calls Waiting Threshold), 85
with AWC, 25
with DWC, 28, 49

D

data calls, 42
Data Shift key, 32
Day mode, 53
Day Routing Tables, 165, 166
DDSP (Digit Display) feature
Call Source Identification, 24
testing, 239
DIG (Dial Intercom) key, 83
Digit Insertion feature
DNIS interactions, 131
Routing by DNIS interactions, 150

display
DNIS interactions, 130
enhancements, 15
TOF interactions, 234
Display Agents key
testing, 243
using, 48
Display Queue key, 244
distinctive ringing, 113
DN (Directory Number), 11
with CCR, 103
maximum, 12
DN (Directory Number) key, 26
with NRD, 35
testing, 265
DN Expansion feature
CCR interactions, 113
EAR interactions, 157
DND (Do Not Disturb) feature, 92
DNIS (Dialed Number Identification Service), 126
7 Digit DNIS for MAX, 138
Call Interflow interactions, 93
CCR interactions, 113
DNIS Across Call Modification, 141
DNIS on CDR, 146
EAR interactions, 157
feature interactions, 130
host interface environment, 129
Name Display for DNIS, 146
operating parameters, 131
operations, 129
Routing by DNIS, 149
TOF interactions, 234
DNIS Across Call Modification feature, 141
feature interactions, 143
operating parameters, 142
DNIS on CDR feature, 146
documentation, 10
DSP (Display) key, 178
DTMF (dual tone multifrequency) tones, 42
Dual Value Added Server Identification, 150
DWC (Display Waiting Calls)
agent advanced, 27
agent basic, 26
CCR interactions, 112, 121
EAR interactions, 157, 161
with ENI, 50
Hold in Queue for IVR interactions, 171, 173
NSVC interactions, 55
supervisor advanced, 49
supervisor basic, 48
TOF interactions, 230

E

EAR (Enhanced ACD Routing), 151
with Agent Observe, 39
call ceilings, 153
with CCR, 95
feature interactions, 154
operating parameters, 164
EES (End-to-End Signaling) feature
with Agent Observe, 42, 43
DNIS Across Call Modification interactions, 145
EMR (Emergency) key, 29
Agent Observe interactions, 42
DNIS Across Call Modification interactions, 143
IANI interactions, 177
testing, 253
Enhanced Interflow feature
CCR interactions, 113
Hold in Queue for IVR interactions, 170
ENI (Enable Interflow) key, 50, 88
CCR interactions, 113
EAR interactions, 157
TOF interactions, 230
EOVF (Enhanced Overflow) feature, 165
CCR interactions, 125
EAR interactions, 164
Hold in Queue for IVR interactions, 170
Routing Tables, 165
error detection, CCR, 104
ESDI QPC-513 G cards, 130

ESN (Electronic Switched Network), 132

F

feature interactions
- 7 Digit DNIS for MAX, 139
- ACA, 82
- ACD Answering Time in Night Service, 61
- ACD Dynamic Queue Threshold, 72
- ACD Night Call Forward without Disconnect Supervision, 79
- Agent Observe, 41
- Call Forcing, 87
- CCR, 107
- DNIS, 130
- DNIS Across Call Modification, 143
- EAR, 154
- Hold in Queue for IVR, 168
- IANI, 177
- Name Display for DNIS, 147
- NCFW, 199
- NSVC, 54
- Routing by DNIS, 149
- SDNB, 214
- Supervisor Control of Queue Size, 218
- TOF, 230

Feature Invocation Messages feature, 114
features
- agents, 19
- supervisor, 37
- system, 57

FGD (Feature Group D), 114
First RAN feature, 206
FORC (Call Forcing), 87
- feature interactions, 87
- with In-Keys, 32

Force Request command, 102
FROA (First RAN On Arrival), 206
FRRT (First RAN Timeout), 236

G

Give RAN Request command, 99

H

Hold feature
- Agent Observe interactions, 40, 41
- IANI interactions, 179
- music on, 197

Hold in Queue for IVR feature, 168
- feature interactions, 168
- feature packaging, 176

HOML (Handset On-Hook Means Logout) prompt, 33
HOT (Hot Line), 83
HPQ (High Priority Queue), 89
HPQ (High Priority Queues), 98
Hunting
- CCR interactions, 114, 117
- DNIS Across Call Modification interactions, 145
- EAR interactions, 158

I

IANI (In-Band ANI) feature, 176
- CCR interactions, 109
- feature interactions, 177

IDC (Incoming Digit Conversion) feature
- CCR interactions, 114
- EAR interactions, 158
- with Routing by DNIS, 149

IDN (Individual Directory Number), 12
- CCR interactions, 114
- EAR interactions, 158
- with ACA, 81

IFDN (Interflow Directory Number), 50, 88, 89
- Call Interflow interactions, 92
- by call type, 91

IMS (Integrated Message Center), 234
In-Calls key, 31
- with ACA, 81
- with DN key, 26
- with NRD, 35
- for three-party communication, 24

incoming calls, queues, 11
incoming trunks, restrictions, 179
intercept treatments, 40

Interflow CCR option, 98
ISA (Integrated Service Access), 145
ISDN/AP Enhancements feature, 114
ISL (ISDN Signaling trunks)
CCR interactions, 115
ISM (Incremental Software Management)
CCR interactions, 114
CDN, 152
EAR interactions, 158
IVMS (Integrated Voice Message System), 234
IVR (Interactive Voice Response) feature, 168

L

lamps, agent, 37, 38
Last Number Redial feature
CCR interactions, 115
EAR interactions, 158
LCD (Liquid Crystal Display), 24, 25
LD 14, IANI, 177
LD 16, Route Data Blocks, 206
LD 23
Call Forcing, 87
Call Interflow, 89
CCR, 95, 98
EOVF, 166
maximum agents, 12
Observe Warning Tones, 39
Priority Agents, 204
SDNB, 214
SPCP, 38
Supervisor Control of Queue Size, 216
TOFT, 220, 223
LD 48, CCR, 105
LD 49
Routing by DNIS, 149
LD 96, CCR, 105
LED (Light Emitting Diode), 24, 25
Line Disconnect feature, 176
Link to Source Queue treatment, 89
log ins, 32, 261, 262
log outs, 33, 263

M

M2216ACD telephones, 14, 37
MADN (Multiple Appearance Directory Number), 213
MCK (Message Cancellation) key, 234
MCR (Multiple Call Arrangements), 214
MCR/MCN (Multiple Call Ringing/Non-ringing) feature, 83
Meridian Link, 129
Meridian Mail feature
CCR interactions, 115
DNIS Across Call Modification interactions, 145
Message Center feature
NCFW interactions, 200
TOF interactions, 234
MIK (Message Indication) key, 234
mixed DN, interactions, 145
MSB (Make Set Busy) feature, 34
Agent Observe interactions, 41
CCR interactions, 115
with DN key, 26
EAR interactions, 158
Hold in Queue for IVR interactions, 169
for log ins, 32
for log outs, 33
Night Treatment, 202
with NSVC key, 56
testing, 240
TOF interactions, 235
Multiple Queue Assignment, 185
feature implementation, 192
feature interactions, 188
feature operation, 194
feature packaging, 192
operating perameters, 186
Multi-Tenant feature
CCR interactions, 115
EAR interactions, 158
TOF interactions, 235
MUS (Music On Delay), 197
Music Broadcast, 197
Music Request command, 100

music with EAR, 152
MWK (Message Waiting) lamp, 234

N

NACD (Network ACD)
CCR interactions, 116
with DNIS Across Call Modification, 143
EAR interactions, 158
Hold in Queue for IVR interactions, 170
IANI interactions, 179
Name Display for DNIS interactions, 148
with timed overflow, 85
Name Display for DNIS feature, 146
feature interactions, 147
operating parameters, 148
NCFW (Night Call Forward) feature, 198
with Call Interflow, 89, 91
by call type, 199
CCR interactions, 119
DNIS Across Call Modification interactions, 143
EAR interactions, 161
feature interactions, 199
feature requirements, 201
IANI interactions, 177
Name Display for DNIS interactions, 147
RAN, 206
NCT (Network Call Trace) feature
CCR interactions, 119
EAR interactions, 160
ND1 option
CCR interactions, 118
EAR interactions, 159
ND2 option
CCR interactions, 118
EAR interactions, 159
Network Call Direction feature, 160
Network Call Forward No Answer feature
CCR interactions, 116
EAR interactions, 159
Network Call Redirection feature
CCR interactions, 117
Network Call Transfer feature
CCR interactions, 119
EAR interactions, 161
Network CPND feature
CCR interactions, 118
EAR interactions, 159
NFCR (New Flexible Code Restrictions) feature, 150
Night Key Digit Manipulation feature
CCR interactions, 119
EAR interactions, 161
Night mode, 34, 35, 53
Night RAN, 162
Night Routing Tables, 165, 167
Night Treatment feature, 202
No-Hold Conference feature, 145
Not Ready lamp, 23
NRAG (Network Ring Again) feature
Call Interflow interactions, 92
NCFW interactions, 200
NRD (Not Ready) mode
agent, 35
CCR interactions, 122
EAR interactions, 162
Hold in Queue for IVR interactions, 168
with log outs, 34
with Priority Agents, 204
SDNB interactions, 214
supervisor, 51
testing, 238
NSVC (Night Service) feature, 53
CCR interactions, 120
EAR interactions, 161
feature interactions, 54
Hold in Queue for IVR interactions, 172
operating parameters, 56
Supervisor Control of Queue Size interactions, 219
TOF interactions, 235

O

OBV (Observe Agent) key, 38, 39
Agent key for, 37
CCR interactions, 122
DNIS Across Call Modification interactions, 143
EAR interactions, 162
testing, 255, 258
octothorps (#) in Routing by DNIS, 150
Oldest call in network CCR option, 98
Ongoing Status Display
Hold in Queue for IVR interactions, 173
originator display
CCR interactions, 122
EAR interactions, 162
Hold in Queue for IVR interactions, 174
Overflow by Count feature
CCR interactions, 123
CCR option, 98
Hold in Queue for IVR interactions, 170
IANI interactions, 178
Overflow by Number feature
NCFW interactions, 200
Overflow feature
DNIS Across Call Modification interactions, 143
Name Display for DNIS interactions, 147
NSVC interactions, 54
RAN for, 205
overflow tones, 41
OVTH (Overflow Threshold), 85
with AWC, 25
with Call Interflow, 88
with CCR, 98
with DWC, 27, 49
Own TOF and high-priority queues first CCR option, 98
Own TOF queue first CCR option, 98

P

packages, 7
paging trunk connections, 30
PDP, CCR interactions, 123
polling message timeouts, 105
POS ID (Position Identifier)
display, 23
with In-Calls, 31
PR (Priority Agent) feature, 203
PRI (Priority Agent) feature, 87
priorities
agent, 203
with CCR, 97
TOF, 220
trunk, 125, 164, 205, 249
Priority Agent Groups feature, 204
Priority Trunks feature, 205, 249
Privacy Release feature, 145
prompts and responses, CCR, 106
PVR/PVN (Private Line Ringing/Non-ringing), 83

Q

QMT1 add-on modules, 13
QMT2 add-on modules, 13
QSU1 telephones, 13
QSU3 telephones, 13
QSU7 telephones, 13
Queue To request command, 96
queues, 11
testing, 245

R

RAG (Call Agent) key, 38, 40, 52
Agent key for, 37
Agent Observe interactions, 41
RAN (Recorded Announcement) feature, 205
CCR interactions, 121
with EAR, 152, 162
with Night Mode, 35
with Night Treatment, 202
testing, 248
TOF interactions, 236
and trunk restrictions, 179
RAN Request command, 99
RAN summary feature, 207
RCD (Recorders), 29
RDB (Route Data Block), 206

Recorded Announcement Broadcast, 207
Remove From Request command, 99
RGA (Ring Again) feature
    ACA interactions, 83
    Call Interflow interactions, 92
    CCR interactions, 107
    EAR interactions, 154
    NCFW interactions, 199, 200
    TOF interactions, 233
Ringing Number Pickup feature
    CCR interactions, 124
    EAR interactions, 163
RLS (Release) key, 24, 36
Route Request command, 102
Routing by DNIS, 149
Routing Tables, 165
RPRT (Report Control), 163

S

SAGP (Select Agent Position) feature
    CCR interactions, 124
    EAR interactions, 163
    Hold in Queue for IVR interactions, 169
SAPA (Set Agent Priority) feature
    CCR interactions, 124
    EAR interactions, 163
    Hold in Queue for IVR interactions, 169
SCR (Single Call Arrangements), 213
scripts, CCR, 96
SCR/SCN (Single Call Ringing/Non-ringing) feature, 84
SDI (Serial Data Interface) ports, 130
SDNB (Secondary DN Call Blocking) feature, 213
    feature interactions, 214
    Multiple Appearance Directory Number, 213
Service Changeable thresholds, 237
Silent Observes, 39, 43
SPCP (Separate Post-Call Processing) indicator, 38
SPID (Supervisor Position Identification) feature, 43
SRRT (Second RAN Route) assignment, 207
Supervisor Control of Queue Size feature, 215
    CCR interactions, 124
    EAR interactions, 163
    feature interactions, 218
    Hold in Queue for IVR interactions, 169
    operating parameters, 219
supervisor features, 37
    advanced, 9
    basic, 8
    testing, 242, 255
supervisors
    agent communication, 23, 52
    observing, 38, 43, 259
synchronization errors, 104
system features, 57
    advanced, 9
    basic, 8
    testing, 245, 261

T

TAD (Time and Date) feature, 13, 179
tape recorders, 29
TDI (Trunk Digit Insertion) with DNIS, 132
telephones
    agent, 12
    display enhancement, 15
teletype messages, 30
Telset Messaging feature
    CCR interactions, 125
    EAR interactions, 164
testing
    advanced features, 251
    agent features, 238, 252
    basic features, 237
    supervisor features, 242, 255
    system features, 245, 261
TGAR (Trunk Group Access Restrictions), 92
threaded CCR calls, 98
three-party communication, 24
timeouts, CCR, 105

TOF (Time Overflow) feature, 219
and Automatic Overflow, 220, 225, 227
with Call Interflow, 88, 93
with CCR, 98, 125
EAR interactions, 164
empty queues, 222
engineering guidelines, 236
with EOVF, 165
feature interactions, 230
Hold in Queue for IVR interactions, 170
IANI interactions, 179
with Interflow, 221, 228
NCFW interactions, 201
NSVC interactions, 55
operating parameters, 236
operation, 220
with Priority Agents, 204
timer for, 222
TOFT (Time Overflow Timer), 220, 222, 236
with Call Interflow, 88
CCR interactions, 125
Tone Request command, 100
tone transitions, 101
Transition Mode
CCR interactions, 120
Hold in Queue for IVR interactions, 172
NSVC, 53, 54
TRC (Malicious Call Trace) key, 51
Trunk Data Blocks, 142
Trunk Group Busy feature
Call Interflow interactions, 93
NCFW interactions, 200
Trunk Night Number feature
CCR interactions, 125
EAR interactions, 164
trunk unit faults, 106
trunks
auto-terminate, 109, 156
CCR interactions, 112, 125
EAR interactions, 164
paging, 30
priority, 125, 164, 205, 249
restrictions, 179
testing, 249

V

VCC (Voice Calling) key, 84
virtual agents, 179

W

Walkaway/Return feature, testing, 263
warning tones, 39

X

X11 release 2, First RAN, 206
X11 release 14
EMR key, 30
warning tones, 39
X11 release 15
AWC key, 25
DWC key, 27, 49
X11 release 16
Call Forcing, 87
X11 release 18
DN key, 26
DNIS, 130
DNIS Across Call Modification, 141
DNIS on CDR, 146
Name Display for DNIS, 147
X11 release 19
DNIS, 126
DNIS Across Call Modification, 142, 143
DWC key, 26, 27
EES, 42
log outs, 33
maximum agents, 12
NRD key, 35, 51
TRC key, 51

Meridian 1 and Succession Communication Server for Enterprise 1000

Automatic Call Distribution

Feature description

Copyright © 1993–2002 Nortel Networks
All Rights Reserved
Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.
SL-1, Meridian 1, and Succession are trademarks of Nortel Networks.
Publication number: 553-2671-110
Document release: Standard 8.00
Date: January 2002
Printed in Canada

NORTEL NETWORKS™